APPENDIX B

IDENTIFICATION OF ARARs AND TBCs

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LIST OF ACRONYMS

µg/m^3	micrograms per cubic meter
ACL	Alternate concentration limit
AOC	Area of Concern
ARAR	Applicable or Relevant and Appropriate Requirements
BACT	Best available control technology
CAA	Clean Air Act
CAMU	Corrective Action Management Unit
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CD	Consent Decree (Order)
CEA	Classification Exception Area
Ciba	Ciba Specialty Chemicals Corporation
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DEP	New Jersey Department of Environmental Protection
DGW	NJDPES Discharge to Groundwater
DOT	U.S. Department of Transportation
ECRA	New Jersey Environmental Cleanup Responsibility Act of 19
EPA	U.S. Environmental Protection Agency
ESD	Explanation of Significant Differences
FS	Feasibility Study
HMTA	Hazardous Materials Transportation Act
HSWA	Hazardous and Solid Waste Amendments of 1984
ISRA	New Jersey Industrial Site Recovery Act of 19
LDR	Land Disposal Restrictions
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
NAAQS	National Ambient Air Quality Standards
NCP	National Contingency Plan
NEPA	National Environmental Protection Act of 1970
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act of 1966
NJDEP	New Jersey Department of Environmental Protection
NJDPES	New Jersey Pollutant Discharge Elimination System
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NSR	New Source Review
NWPA	National Water Policy Act
OSWER	EPA Office of Solid Waste and Emergency Response
OU	Operable Unit under CERCLA
PQL	Practical Quantitation Limit
PRG	Preliminary Remediation Goal
PSD	Prevention of Significant Deterioration

PWS	Public Water Systems
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
RfD	Reference Dose
RI	Remedial Investigation
ROD	Record of Decision
SARA	Superfund Amendment and Reauthorization Action of 1986
SDWA	Safe Drinking Water Act
SIP	State Implementation Plan
SOW	Statement of Work
SWDA	Solid Waste Disposal Act
TBC	To-Be-Considered
TSCA	Toxic Substance Control Act
TSD	Treatment, Storage, Disposal (Facility)
TU	Temporary Unit
TXS	Toxic Volatile Organic Substances
UIC	Underground Injection Control
UST	Underground Storage Tank
WQC	Water Quality Criteria

1.0 INTRODUCTION

The purpose of this ARARs identification report is to document the identification of applicable or relevant and appropriate requirements (ARARs) and to be considered(s) (TBCs) in accordance with the RI/FS Guidance (EPA, 1988) and the Toms River Site (herein referred to as the Site) Operable Unit 2 (OU-2) Feasibility Study (FS) Statement of Work, Section 1.2. After this introductory section, the process for ARAR identification, including the process for obtaining CERCLA waivers, is described in Section 2. A review of the regulations and lists of potential ARARs and TBCs for the remedial actions to be conducted at the Site are presented in Section 3. General conclusions of the ARARs and TBCs evaluation are presented in Section 4.

2.0 METHODOLOGY FOR IDENTIFYING ARARS AND TBCS

This section discusses the methodology for identification and implementation of ARARs and TBCs for the OU-2 FS. Section 2.1 summarizes the methodology for the ARAR identification process utilized by the EPA for CERCLA remedial actions. This identification process is applied to determine if and when regulatory requirements should be invoked as ARARs or TBCs. Section 2.2 includes a discussion about using variances allowed by the regulations and CERCLA waivers to achieve compliance with ARARs.

2.1 ARAR DEFINITION AND IDENTIFICATION

As required by CERCLA Section 121(d), remedial actions must address hazardous substances, pollutants, and contaminants released into the environment, and must control further releases to ensure protection of human health and the environment. With respect to any hazardous substance, pollutant, or contaminant that will remain on-site, Section 121(d) requires that the completed remedial action achieve a level or standard of control which attains each legally applicable or relevant and appropriate standard, requirement, criterion, or limitation. The regulatory controls are to be in accordance with Federal environmental laws or any State environmental or facility siting laws that are more stringent than the Federal controls.

2.1.1 ARAR Rationale

Section 121(e) of CERCLA codifies EPA policy that on-site response actions may proceed without obtaining permits. This permit exemption allows the response action to proceed in an expeditious manner, free from potentially lengthy delays of approval by administrative bodies. This permit exemption applies to all administrative requirements, whether or not they are actually styled as "permits." Thus, in determining the extent to which on-site CERCLA response actions must comply with other environmental and public health laws, one should distinguish between substantive requirements, which may be applicable or relevant and appropriate, and administrative and procedural requirements, which are not.

Substantive and administrative requirements are explained as follows:

> *Substantive requirements* are those requirements that pertain directly to actions or conditions in the environment. Examples of substantive requirements include quantitative health or risk-based restrictions upon exposure to types of hazardous substances (e.g. MCLs establishing drinking water standards for particular contaminants), technology-based requirements for actions taken upon hazardous substances (e.g. incinerator standards requiring particular destruction and removal efficiency), and restrictions upon activities in certain special location (e.g. standards prohibiting certain types of facilities in floodplains).
>
> *Administrative requirements* are those mechanisms that facilitate the implementation of the substantive requirements of a statute or regulation. Administrative requirements include the approval of, or consultation with administrative bodies, consultation, issuance of permits, documentation, reporting, recordkeeping, and enforcement. In general, administrative requirements prescribe methods and procedures by which substantive requirements are made effective for purposes of a particular environmental or public health program. For example, the

requirement of the Fish and Wildlife Coordination Act to consult with the U.S. Fish and Wildlife Service, Department of the Interior, and appropriate State agency before controlling or modifying any stream or other water body is administrative and is therefore not an ARAR.

This distinction is important because cleanup activities on a CERCLA site are statutorily exempted by CERCLA Section 121(e) from obtaining permits. While Superfund cleanups must comply with all the substantive requirements that permits enforce, on-site CERCLA cleanups are not required to obtain the actual permit papers, or to obtain the approval of State or local administrative boards.

The CERCLA program has its own set of administrative procedures which assure proper implementation of CERCLA. The Feasibility Study, the Proposed Plans, the ROD, the Community Relations Plan, and the Administrative Record document that the substantive requirements of other Federal and State laws have been identified and are complied with.

The classification of a requirement as substantive or administrative is based on whether the provision relates primarily to program administration or primarily to environmental and human health goals. In this case CERCLA guidance provides the following considerations for determining whether the requirement is substantive or administrative:

- The basic purpose of the requirement;
- Any adverse effect on the ability of the action to protect human health and the environment if the requirement were not met;
- The existence of other requirements (e.g. CERCLA procedures) at the Site that would provide functionally equivalent compliance; and
- Classification of similar or identical requirements as substantive or administrative in other CERCLA situations.

2.1.2 ARAR Definition

The regulations promulgated under CERCLA place controls on remedial actions to ensure protection of human health and the environment, and to ensure proper management of remediation waste. The lead agency (EPA), in conjunction with the supporting agencies (such as NJDEP), is required to identify promulgated standards, requirements, criteria, or limitations that will be met during the implementation of the remedy. The identified promulgated standards, requirements, criteria, or limitations are called ARARs. An ARAR may be either 1) an applicable requirement or 2) a relevant and appropriate requirement. As defined in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), ARARs are as follows:

> *Applicable Requirements* means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those standards that are identified by the State and that are more stringent than Federal requirements may be applicable.
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> *Relevant and Appropriate Requirements* means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that, while not "applicable" to a

hazardous substance, pollutant, contaminant, remedial action, location, or other circumstances at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards that are identified in a timely manner and that are more stringent than Federal requirements may be relevant and appropriate.

Applicability implies that the remedial action or the circumstances at the site satisfy all of the jurisdictional prerequisites of a requirement. For example, the location standards for landfills under RCRA would apply if a new hazardous waste landfill unit or a lateral expansion of an existing unit were to be built on a CERCLA site.

The determination that a requirement is relevant and appropriate is a two-step process: 1) determination if a requirement is relevant, and 2) determination if a requirement is appropriate. In some cases, a requirement may be relevant, but not appropriate, given site-specific circumstances; such a requirement would not be an ARAR for the site. In addition, it is possible for only part of a requirement to be considered relevant and appropriate in a given case.

2.1.3 Types of ARARs

The RI/FS Guidance (EPA, 1988) describes three functional groups of ARARs which must be evaluated:

- Chemical-specific ARARs: health or risk based values or methodologies which, when applied to site-specific conditions, will result in the establishment of numerical values;
- Location-specific ARARs: restrictions place on the concentration of hazardous substances for the undertaking of activities solely because they are in specific location; and
- Action-specific ARARs: technological or activity based requirements or limitations on actions with respect to hazardous substances.

2.1.4 To Be Considered Standards

In addition to ARARs, the lead and support agencies may identify other non-promulgated advisories, criteria, or guidance documents that are To Be Considered (TBC) to supplement an ARAR provision for a particular release. TBCs are typically issued by Federal or State governments, are not legally binding, and do not have the status as potential ARARs. However, TBCs can be used in determining the necessary level of cleanup for the protection of human health and the environment. The March 8, 1990 preamble to the final NCP rule (see 55 FR 8746) indicates that the use of TBCs is discretionary rather than mandatory; however, their incorporation is recommended. An example of a TBC is the Soil Screening Guidance from the Office of Solid Waste and Emergency Response (OSWER) issued in December 1994.

2.1.5 State ARARs

Under the NCP, remedial actions must comply with ARARs which include State promulgated environmental regulations, if any, that are more stringent than Federal environmental requirements. With respect to potential State ARARs, the term "promulgated" is defined to mean regulations of "general applicability [and] legally enforceable" [See 40 CFR 300.400(g)]. The preamble to the NCP defines

the term "legally enforceable" to mean State regulations issued in accordance with pertinent State procedures and that "contain specific enforcement provisions or [are] otherwise enforceable under State law" (See 55 FR 8746). A statute or regulation need only contain presumptively (see Section 2.2.5) valid enforcement "provisions" to be satisfactorily enforceable for ARAR identification. This can occur whether or not such provisions are valid in general or as applied to a specific remedial action.

An applicable State requirement applies as a matter of law to a given situation. A relevant and appropriate requirement does not apply as a matter of law but addresses sufficiently similar situations (See 40 CFR 300.5). The criteria for identifying a State requirement as relevant and appropriate can be construed to mean that, even though there may be no legal (jurisdictional) authority to impose a given regulation for a remedial action taken under CERCLA, the requirement could nonetheless qualify as relevant and appropriate by virtue of its subject matter alone.

Section 121(d)(2)(C) of CERCLA states that "[A] State standard, requirement, criteria, or limitation (including any State siting standard or requirement) which could effectively result in the statewide prohibition of land disposal of hazardous substances, pollutants, or contaminants shall not apply" unless the following conditions are met:

- The State standard, requirement, criterion, or limitation is of general applicability and was adopted by formal means;
- The State standard, requirement, criterion, or limitation was adopted on the basis of hydrologic, geologic, or other relevant considerations and was not adopted for the purpose of precluding on-site remedial actions or other land disposal for reasons unrelated to protection of human health and the environmental; and
- The State arranges for, and assures payment of the incremental costs of utilizing a facility for disposition of the hazardous substances, pollutants, or contaminants.

The State of New Jersey and the implementing Agency, the Department of Environmental Protection (DEP), have respectively adopted statues and administrative regulations which are applicable or relevant and appropriate requirements (ARARs). These regulations are discussed herein.

2.1.6 ARAR Identification Process

The process of identifying ARARs and TBCs is specified in CERCLA Section 121, 40 CFR 300.400(g), 40 CFR 300.430(e)(2), and 40 CFR 300.515(d). In addition to the above-mentioned statutory and regulatory requirements, the EPA has published the following guidance documents for identification of ARARs and TBCs.

- *CERCLA Compliance with Other Laws Manual: Interim Final* (EPA/540/G-89/006), August 1988;
- *CERCLA Compliance with Other Laws Manual*: - *Part II. Clean Air Act and Other Environmental Statutes and State Requirements* (EPA/540/G-89/009), August 1989;
- *Superfund LDR Guide #5 - Determining When Land Disposal Restrictions Are Applicable to CERCLA Response Action* (OSWER 9347.3-05FS), July 1989;
- *Superfund LDR Guide #7 - Determining When Land Disposal Restrictions Are Relevant and Appropriate to CERCLA Response Action* (OSWER 9347.3-07FS), December 1989;

- *ARARs Q&As: Compliance with Federal Water Quality Criteria* (OSWER 9234.2-09/FS), June 1990;
- *ARARs Q&As: Compliance with the Toxicity Characteristics Rule: Part 1* (OSWER 9234.2-08/FS), *May* 1990;
- *ARARs Q&As: General Policy RCRA, CWA, SDWA* (OSWER 9234.2-01/FS), May 1989;
- *ARARs Q&As: The Fund-Balancing Waiver* (OSWER 9234.2-13/FS), January 1991;
- *CERCLA Compliance with Other Laws Manual: RCRA ARARs - Focus on Closure Requirements* (OSWER 9234.2-04/FS), October 1989; and
- *CERCLA Compliance with Other Laws Manual: - Overview of ARARs - Focus on Waivers* (OSWER 9234.2-03/FS), December 1989.

The process of identification of ARARs is described and graphically depicted in Section 1.2.4 of the *CERCLA Compliance with Other Laws Manual: Interim Final* (EPA/540/G-89/006), August 1988. In general, the identification process involves a two-part evaluation to determine if the promulgated environmental requirement is applicable or, if not applicable, relevant and appropriate. An ARAR may be either "applicable" or "relevant and appropriate."

An applicable requirement directly and fully addresses or regulates the hazardous substance, pollutant, contaminant, action being taken, or other circumstances at the site. To determine if the particular requirement is legally applicable, it is necessary to refer to the terms, definitions, and jurisdictional prerequisites of the statute or regulation. All pertinent jurisdictional prerequisites must be met for the requirement to be applicable. In addition, previous court decisions could also play an important role in determining if a particular requirement is applicable.

If the requirement is not applicable, the next step is to decide if it is both relevant and appropriate. This decision must be based on a determination that the requirement 1) regulates or addresses problems or situations sufficiently similar to those encountered at the CERCLA site (i.e., relevance), and 2) is appropriate to the circumstances of the release or threatened release such that its use is well suited to the particular site. Determining if requirements are relevant and appropriate is site-specific and must be based on best professional judgment including the characteristics of the remedial action, the hazardous substance present at the site, and the physical circumstances of the site and of the release.

The site-specific conditions must be compared to the statutory or regulatory requirements. The EPA further clarifies that requirements determined to be relevant and appropriate do not need to be legally enforceable. This was clarified in the preamble to the NCP (55 FR 8743) which states, "EPA disagrees [with the comment regarding changing the definition of relevant and appropriate to include 'while not applicable, sufficiently satisfies the jurisdictional prerequisites for legal enforceability'], because the jurisdictional prerequisites, while the key in the applicability determination, are not the basis for relevance and appropriateness."

The regulations and EPA guidelines state that the identification of ARARs is conducted on a site-specific basis for each remedial alternative under consideration. The rationale as to why a particular statutory or regulatory requirement is determined to be an ARAR is to be documented for each remedial alternative being considered during the detailed analysis of alternatives. Since the chemical-specific ARARs will generally be the same for all alternatives, a single list is sufficient and does not need to be repeated for each alternative.

Documentation may also be appropriate in some cases when a potential ARAR is initially identified but ultimately is determined not to be an ARAR. The factors associated with the elimination of the initially identified ARAR should be explained in sufficient detail so that the basis of the decision can be understood.

2.2 CERCLA WAIVERS

During the detailed analysis of alternatives, remedial alternatives will be assessed to determine if the identified ARARs can be attained. An ARAR is deemed to be attained if the implementation of the response action fully adheres to the ARAR or meets (subject to EPA approval) a regulatory variance provision allowed for within the ARAR. If an ARAR cannot be attained, EPA can still select the alternative if there are sufficient grounds to invoke one of the waivers allowed under Section 121(d)(4) of CERCLA as implemented by 40 CFR 300.430(f)(1)(ii)(C). These CERCLA waiver provisions can be used to alleviate the need to comply with any identified ARAR for an on-site response action. However, a waiver cannot be used to eliminate a CERCLA statutory requirement (i.e., remedies must be protective of human health and the environment, five-year reviews, etc.). A more detailed discussion of the CERCLA ARAR waivers is provided in EPA OSWER Publication 9234.2-031FS, *Overview of ARARs, Focus on ARAR Waivers* and the *CERCLA Compliance with Other Laws Manual* (OSWER Directive 9234.1-01). Discussions summarizing the six potential CERCLA waivers, including circumstances under which each waiver might be invoked and criteria for invoking the waiver, are provided in the following subsection.

2.2.1 Interim Measures Waiver

The interim measures waiver may be obtained for incomplete remedial measures that are expected to be followed (within a reasonable time) by complete measures that will attain ARARs. The interim measures waiver may apply to sites at which a final site remedy is divided into several smaller actions, such as remediating individual source areas within an OU or remediating several OUs within an NPL site. The factors that may be appropriate for invoking the interim measures waiver include:

- *Potential for exacerbation of site problems.* The interim measure should not directly cause additional migration of contaminants, complicate the site cleanup, or present an immediate threat to public health or the environment.
- *Non-interference with final remedy*. The interim measure selected must not interfere with, preclude, or delay the final remedy, consistent with EPA's priorities for taking further action.

2.2.2 Greater Risk to Human Health and the Environment Waiver

This waiver may be invoked for an ARAR that can only be met by using a remedial action that poses risks greater to human health and the environment than non-compliance with that ARAR. This waiver could be used to "save" a remedial action option that would cause greater environmental damage or health risks (either occupational or off-site public) solely because that option had to meet all ARARs, especially where one ARAR causes the problem. For example, the applicable RCRA closure requirement for an impermeable cap over contaminated residual soil could be waived if this action would prevent natural flushing and reduce the effectiveness of a concurrent groundwater cleanup system, therefore extending the risk.

Specific factors that may be considered in invoking the waiver for preventing greater risks include:

- *Magnitude of adverse impacts.* The risk posed or the likelihood of present or future risks posed by the remedy using the waiver should be significantly less than that posed by the totally compliant remedy.
- *Duration of adverse impacts.* A waiver is deemed more appropriate the longer the duration that potential impacts exist as a result of implementing the compliant remedy.
- *Reversibility of adverse impacts.* A waiver is especially appropriate if the risks posed by meeting the ARAR could cause irreparable damage.

2.2.3 Technical Impracticability Waiver

This waiver may be invoked when compliance with such a requirement is technically impracticable from an engineering perspective. The term "impracticable" implies an unfavorable balance of engineering feasibility and reliability. The term "engineering perspective" used in the statute implies that cost, although a factor, is not generally the major factor in determination of technical impracticability. However, a remedial alternative that is feasible might be deemed technically impracticable if it could only be accomplished at inordinate cost. Furthermore, remedies that are not field demonstrated but that are thought to be feasible cannot be eliminated through the application of this waiver. Thus, this waiver may be used for cases where neither existing nor innovative technologies can reliably attain the ARAR in question, or attainment of the ARAR in question would be illogical or infeasible from an engineering perspective. Additional information on technical impracticability waivers for groundwater restoration can be found in OSWER Directive 9234.2-25, September 1993.

The technical impracticability waiver may be invoked when either of the following specific criteria are met.

- Engineering Feasibility. The current engineering methods necessary to construct and maintain an alternative that will meet the ARAR cannot reasonably be implemented.
- Reliability. The potential for the alternative to continue to be protective into the future is low, either because the continued reliability of technical and institutional controls is doubtful, or because of inordinate maintenance costs.

2.2.4 Equivalent Standard of Performance Waiver

This waiver may be used in situations where an ARAR stipulates use of a particular design or operating standard, but equivalent or better remedial results could be achieved using an alternative design or method of operation. For instance, an alternative may involve reduction of either the mobility or toxicity of a hazardous substance through a specified form of treatment. The waiver may be invoked when a substitute form of treatment for that specified or required in the ARAR (e.g., fixation instead of incineration) achieves comparable reductions in either mobility or toxicity. For example, a mandated Land Disposal Restriction (LDR) treatment technology may be waived if an equivalent technology is employed. In this example, the use of a treatability variance allowing use of the equivalent technology under the LDR regulations should be sought prior to pursuing this CERCLA waiver.

The specific factors that can be considered in deciding whether to invoke this waiver include:

- *Time required to achieve beneficial results.* The time required to achieve beneficial results using the alternative remedy should be equal to or less than that required by the ARAR. An alternative that achieved similar results in significantly less time should be considered as advantageous.
- *Degree of protection*. The degree of protection of health, welfare, and the environment of the alternative remedy should be equal to or greater than that required by the ARAR.
- *Level of performance*. The level of performance achieved by the alternative remedy should be equal to or greater than that specified in the ARAR.
- *Reliability of the remedy*. The potential for the alternative to continue to be protective into the future is equal to or greater than that afforded by the ARAR.

2.2.5 Inconsistent Application of State Requirements Waiver

This ARAR waiver is intended to prevent unjustified or unreasonable restrictions from being imposed on cleanups. The issues addressed by this waiver are closely tied to those involved in the definition of "promulgated." This waiver may be used in two situations. First, State requirements may have been developed and promulgated but never applied in past situations. Such requirements should not be applied in CERCLA actions where there is evidence that the State does not intend to apply them. Second, State standards that have been variably applied or inconsistently enforced may give reason to invoke the inconsistent application waiver. A standard is presumed to have been consistently applied unless there is evidence to the contrary.

Consistency of application may be determined by:

- Similarity of sites or response circumstances;
- Proportion of non-compliance cases;
- Reason for non-compliance; or
- Intention to consistently apply future requirements as demonstrated by policy statements, legislative history, site remedial planning documents, or State responses to Federal-lead sites. [NOTE: Newly promulgated requirements shall be presumed to embody this intention unless there is evidence to the contrary.]

2.2.6 Fund-Balancing Waiver

The fund-balancing waiver may be invoked when meeting an ARAR would entail such cost in relation to the added degree of protection or reduction of risk afforded by that standard that remedial action at other sites would be jeopardized. This ARAR waiver was developed with the intention of applicability at sites funded within the Superfund program.

3.0 LIST OF POTENTIAL ARARs AND TBCs

This section applies the ARAR identification process presented in Section 2 to establish a list of ARARs and TBCs that could be invoked for the response actions being considered for OU-2.. The potential ARARs and TBCs (both Federal and State complement regulations) are subdivided by the Federal statutory source of the regulation or TBC. This subdivision was chosen rather than dividing the ARARs and TBCs into chemical-, location-, and action-specific-categories, since the statutory division is better suited to identify and discuss overall issues associated with applying the statutory requirements to the remediation of the Site. The statutory divisions will include: Clean Air Act (Section 3.1); Comprehensive Environmental Response, Compensation, and Liability Act (Section 3.2); Federal Water Pollution Control Act (Section 3.3); Hazardous Materials Transportation Act (Section 3.4); Natural Resource and Wildlife Protection Laws (Section 3.5); Occupational Safety and Health Act (Section 3.6); Safe Drinking Water Act (Section 3.7); Solid Waste Disposal Act (Section 3.8); and Toxic Substances Control Act (Section 3.9).

A summary sheet for each potential ARAR/TBC identified will be provided in the subsections that follow. The summary sheets will identify the type of ARAR (i.e., Chemical, Location, or Action), provide the Federal and State regulatory citations, summarize the regulatory requirements, and give references to potential TBCs associated with the ARAR. Implementation strategy discussions address whether the ARAR should be properly identified for the Site. These discussions describe the basis for ARAR determination, and identification of issues and other considerations pertinent to implementing the ARAR/TBC at the Site.

The ARAR/TBCs have been listed in Table 3-1 through 3-6 along with whether they are considered to be applicable or relevant and appropriate.

3.1 AIR QUALITY

3.1.1 Clean Air Act

This section addresses the identification and application of potential chemical-, location-, and action-specific ARARs and TBCs associated with the Clean Air Act (CAA) [42 USC Section 7401 et. seq.]. Subsection 3.1.1.1 provides some general information regarding the CAA. The summary sheets for each potential ARAR and TBC are included in Subsection 3.1.1.2.

3.1.1.1 Background Information

The CAA was enacted to protect and enhance the quality of the Nation's air resources to promote public health. This goal is accomplished by establishing national standards for air quality, known as the National Ambient Air Quality Standards (NAAQS), and the regulation of air emission sources. NAAQS are public health protection limits for specific air pollutants (called criteria pollutants).

The EPA is responsible for developing the minimum standards, criteria, and procedures for protecting air resources. Each state must adopt regulatory programs called State Implementation Plans (SIPs) based on the minimum Federal requirements and receive EPA approval prior to being able to enforce their own program. The State SIP must address the improvement of air quality (i.e., emission offset reviews) in areas not meeting NAAQS (called non-attainment areas) to prevent the deterioration of air

quality elsewhere (called Prevention or Significant Deterioration or PSD). New Source Review (NSR) requirements must also be addressed within the SIP.

The CAA also imposes requirements upon certain emission sources. The New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPs) specify emission limits, control requirements, testing, monitoring and reporting requirements for targeted industrial sources and pollutants. These may be adopted as ARARs, depending on the similarity to a remedial technology or the pollutants of concern.

The 1990 Clean Air Act Amendments introduced new approaches to achieving NAAQS attainment and controlling industrial emissions. Most important to the ARARs determination, the 1990 CAAA contains lower "major source" emission thresholds for some pollutants in an effort to more aggressively address non-attainment problems. Major sources are subject to greater requirements and restrictions than non-majors. Hazardous air pollutant emissions are addressed in a new way, which might cause some CERCLA actions to be deemed "major". The new operating permit requirements (Title V) which are affecting industries nationwide, do not affect CERCLA activities, since these rules are primarily administrative. Regulation under the 1990 CAAA is dynamic, with new rules being proposed or finalized over time. Therefore, it is possible that future CAAA regulations will constitute CERCLA ARARs.

3.1.1.2 ARAR and TBC Summary Sheets

This subsection contains the summary sheets for the potential ARARs and TBCs consistent with the identification process described in Section 2 and the jurisdictional authority of the CAA.

ARAR CONCERN: Ambient Air Quality Standards

FEDERAL CITATION: 40 CFR 50

STATE CITATION: NJAC 7:27-13

REQUIREMENT SUMMARY:

Establishes national ambient air quality standards (NAAQS) to protect human health and welfare. Regional monitoring by the State agency is required to assess air quality and to classify areas as attainment or non-attainment areas.

The criteria pollutants (i.e. those with NAAQS) are:

Carbon Monoxide

Ozone

Sulfur Dioxide

Nitrogen Oxides

Particulate Matter Smaller than 10 microns (PM-10)

Lead

Depending on the pollutant, the standards are expressed as concentrations averaged over 1 hour, 3 hours, 8 hours, 24 hours, 3 months or 1 year, designated to protect against both acute and chronic health effects.

RELATED TBCs: None

ARAR TYPE: Chemical/Action

IMPLEMENTATION STRATEGY:

Potentially Relevant and Appropriate only to determine need for remedial action. Attainment of the NAAQS is the responsibility of the State agency, rather than individual sources. However, any dispersion modeling analyses performed to address other ARARs may be used to show that the site remediation alone does not cause violation of any NAAQS. With the possible exception of incineration, it appears unlikely that any action on the Site would have substantial affect on the level of criteria pollutants in the immediate vicinity of the Site.

ARAR CONCERN: New Source Review (NSR) and Prevention of Significant Deterioration (PSD) Requirements.

FEDERAL CITATION: 40 CFR 52

STATE CITATION: 7:27-18

REQUIREMENT SUMMARY:

The federal regulation establishes a mechanism for approval of State Implementation Plans and promulgation of such plans. The regulation establishes minimum requirements to be included within a SIP, such as classifications of regions, control strategies, rules and regulations, compliance schedules, and review of new sources and modifications. The implementation plans must meet requirements of Section 110 of the Clean Air Act and 40 CFR 51.

Relevant to individual emission sources, the federal regulation defines the emissions and ambient impact thresholds for requirements under NSR and PSD. New sources or modifications which emit greater than the defined threshold for each listed pollutant, must perform ambient impact analyses and install controls which meet best available control technology (BACT) or lowest achievable emission rate (LAER). Significance under NSR is also defined as causing an increase in the ambient concentration of a listed pollutant by 1 ug/m3 (24-hr. average).

The State regulation (NJAC 7:27-18) specifies requirements and state-specific thresholds for NSR and PSD. Most important are the relatively low thresholds for VOC and NO_x, due to New Jersey's "severe" non-attainment status for ozone. The New Jersey regulation exempts portable and temporary sources (operational on-site for a maximum of 6 months).

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

These regulations are potentially applicable and would require a comparison of potential emissions from the remedial activities to the significant emission thresholds for New Source Review. Toms River is a severe non-attainment area for ozone, so that any on-site sources of VOCs or NOx over 25 tons per year will be subject to the major source provisions. Limiting any emissions to less than 25 tons per year would remove this requirements as an ARAR.

ARAR CONCERN: New Source Performance Standards (NSPS)

FEDERAL CITATION: 40 CFR 60

STATE CITATION: None.

REQUIREMENT SUMMARY:

New Source Performance Standards are source-specific regulations which establish testing, control, monitoring and reporting requirements for new sources. Designed to help states achieve or maintain NAAQS attainment, the NSPS apply to criteria pollutants and a few other pollutants of concern. NSPS which could be possibly adopted as ARARs for CERCLA actions are Subpart D (Small Industrial-Commercial-Institutional Steam Generator Units) or Subpart E (Incinerators). Pollutants covered by these NSPS include particular matter, and SO_2.

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

Potentially relevant and appropriate. Compliance with NSPA should be evaluated only if incineration, low temperature thermal desorption (?) or steam-generating equipment will be used. Other ARARs for incinerators (such as requirements under RCRA) would be more significant in terms of analysis and operational requirements than this NSPS.

ARAR CONCERN: National Emission Standards for Hazardous Air Pollutants (NESHAP), Title III of 1990 CAA Amendments

FEDERAL CITATION: 40 CFR 61
40 CFR 63

STATE CITATION: None

REQUIREMENT SUMMARY:

This regulation in 40 CFR 61 established National Emission Standards for Hazardous Air Pollutants (NESHAPs) for selected pollutants from selected industries. NESHAPs were promulgated for 8 substances for various specified industries or sources prior to implementation of the 1990 CAA Amendments. These standards require emission limits from certain sources of the following pollutants: arsenic, asbestos, benzene, beryllium, mercury, radionuclides, radon, and vinyl chloride.

Title III of the 1990 CAA Amendments established a new mechanism for developing NESHAPs for 189 listed hazardous air pollutants (HAPs) emitted from an initial list of approximately 175 source categories. These standards comprise 40 CFR 63. Few NESHAPs have been promulgated to date under this program, and CERCLA sites are not a designated source category, However, any source of 10 tons/year of a single HAP or 25 tons/year total HAPs requires an operating permit and may require controls.

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

Potentially relevant and appropriate. Of particular concern are the older NESHAPs for arsenic and mercury. While not specifically applicable to CERCLA cleanup activities, there is precedent for applying these standards to other types of sources, especially since they are health-based standards. Air emissions of these compounds should be compared to the most appropriate NESHAP limits to demonstrate compliance.

The only aspect of the newer NESHAP rule that can be construed as relevant and appropriate is the 10/25 ton per year "major" HAP threshold. It is unlikely that this quantity will be exceeded by CERCLA activities solely, especially in light of the limited amount of regulated chemicals present on the site. However, HAP emissions from remedial activities should be totaled with existing emissions from Standardization and compared with these thresholds.

ARAR CONCERN: Release of Volatile Organic Compounds

FEDERAL CITATION: None

STATE CITATION: NJAC 7:27-16

REQUIREMENT SUMMARY:

These regulations are directed at processes which may release volatile organic compounds (VOCs) into the atmosphere. Allowable VOC emission rates to the atmosphere are specified as a percentage of the total VOC emission rate from the particular process. Allowable VOC emission rates to the atmosphere are based on the VOC vapor pressure, and range from 0.3% to 15% of the total process emission rate. A general provision requires that information on location, rate, duration, composition and properties of the emission be supplied to NJDEP upon request. Incinerators are currently exempt from these provisions but are covered under NJAC 7:27-11 which specifically address emissions from incinerators (odor, visible emissions, and particulate emission rate).

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

Potentially applicable to remedial activities used on-site that have the potential to emit VOCs.

ARAR CONCERN: Release of Toxic Substances

FEDERAL CITATION: None

STATE CITATION: NJAC 27:17

REQUIREMENT SUMMARY:

These regulations regulate the atmospheric discharge of asbestos and the following ten toxic volatile organic substances (TXS): benzene, carbon tetrachloride, chloroform, dioxane, ethylenimine, ethylene dibromide, ethylene dichloride, 1,1,2,2-tetrachloroethane, tetrachloroethylene, 1,1,2-trichloroethane, and trichloroethylene. The regulation specifies that any emission source of the listed compounds must be registered with the NJDEP and that state-of-the art emission control measures must be employed, however no numeric emission values are specified. This regulation is targeted primarily at manufacturing activities but is relevant and appropriate to any source operation which emits more than 0.1 lbs/hr of any TXS.

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

Potentially applicable to remedial activities on-site that have the potential to emit 0.1 lb/hr or more of any listed TXS. Remedial options will be evaluated in terms of TXS emissions and the need for controls to meet this regulation.

ARAR CONCERN: Particle Emissions From Fuel Burning

FEDERAL CITATION: None

STATE CITATION: NJAC 7:27 - 4

REQUIREMENT SUMMARY:

These regulations are directed at industrial fuel-burning equipment (e.g. boilers, engines, turbines) which may release smoke or airborne particulate pollutants. Particulate emission limits are established as a function of heat input to the combustion unit. Permitting and testing requirements are discussed for applicable units. Movable or portable equipment is exempt from this regulation, as is any unit with heat input less than 1 million BTU/hr.

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

Potentially applicable. Compare potential emissions fuel burning equipment used as part of a remedial technology with particulate emission limits in the regulation. Assess possible exemption based on movability, portability or size of the unit. This regulation may impact site remedial activities involving thermal processing including low temperature thermal desorption or incineration. Regulatory applicability will depend on the form and heat rating of the remedial technology used.

ARAR CONCERN: Emissions from Incinerators

FEDERAL CITATION: None

STATE CITATION: NJAC 7:27 - 11

REQUIREMENT SUMMARY:

These regulations are directed at municipal waste, hospital waste and industrial waste incinerators. The parameters regulated are odor, visible emissions (opacity), and particulate emission rate.

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

Potentially relevant and appropriate to incineration remediation. Compare potential emissions from stack exhaust of selected remedial technology with particulate emission limits in the regulation.

3.2 WATER QUALITY

3.2.1 Federal Water Pollution Control Act

This section addresses the identification and application of potential chemical- and action-specific ARARs associated with the Federal Water Pollution Control Act [33 USC 1251 et. seq.] This Act is more commonly known by its 1972 amendment, the Clean Water Act (CWA). Subsection 3.2.1.1 provides background information regarding the CWA. The summary sheets for each potential ARAR under the jurisdiction authority of the CWA are included in Subsection 3.2.1.2.

3.2.1.1 Background Information

The roots of the CWA date back to the Refuse Act of 1899. This act was modified on several occasions to improve control mechanisms with technological advances and to respond to increasing pollution of waterways across the United States. In 1971, Congress decided that a radical new approach to controlling water pollution was needed, and so it passed the CWA in 1972. Major revisions to the law occurred in 1977. The 1977 amendment strengthened and extended its regulation of toxic substances in water, and extended some deadlines.

The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. To accomplish this goal, the unpermitted discharge of conventional (including biochemical oxygen demand, total suspended solids, fecal coliform, oil and grease, and pH), non-conventional (ammonia nitrogen, chemical oxygen demand, total organic carbon, total solids, and non-toxic substances), and 126 priority pollutants (including toxic substances) into waterways by municipal, industrial, and other point sources is prohibited. The CWA also regulates indirect sources of pollutants, including non-point sources and spills, dredging or placing fill material in bodies of water (including wetlands), and storm water runoff. Major provisions of the act that could influence selection of remedial actions at the Site include:

- Section 301 - Effluent Limitations,
- Section 303 - Water Quality Standards,
- Section 304 - Water Quality Criteria, and
- Section 311 - Control of Discharges of Oil and Hazardous Substances.

The New Jersey state equivalent to the CWA is the New Jersey Water Pollution Control Act.

3.2.1.2 ARAR and TBC Summary Sheets

This subsection contains the summary sheets for potential ARARs and TBCs consistent with the identification process described in Section 2 and the jurisdictional authority of the CWA.

ARAR CONCERN: NPDES/NJPDES Program Requirements

FEDERAL CITATION: 40 CFR 122, Subpart Band 40 CFR 136

STATE CITATION: NJAC 7:14A-1 et seq.

NJAC 7:9-6 et al.

REQUIREMENT SUMMARY:

These regulations are promulgated pursuant to the CWA to regulate point source discharge to waters of the United States. 40 CFR 122.41(i) requires monitoring of the discharge with respect to the mass of each pollutant, the volumes of effluent, and the frequency of discharge. 40 CFR 122.44(a,e) require the use of best available technology economically achievable to control pollutants. The methods and procedures for monitoring effluents are contained in 40 CFR 136. The technology-based effluent limitations, standards, and controls established under Section 301 and 307 of the CWA may also need to be considered.

The New Jersey Pollutant Discharge Elimination System (NJPDES) Regulations implement the New Jersey Water Pollution Control Act and apply to all operations discharging to waters of the State from a point source. Under the NJPDES Program, it is illegal to build or operate any facility for the collection, treatment, or discharge of any pollutant without a valid permit. The discharge of pollutants to surface water, groundwater, or POTWs is expressly covered by these regulations.

Industrial facilities (as defined in 40 CFR 122.26) are required to submit a NPDES Stormwater Discharge Permit Application to EPA by October 2, 1992. This permit application is to identify the site-wide monitoring program (including monitoring parameters and location) for all stormwater discharges.

In 1993, the DEP promulgated regulations for the establishment of Classification Exception Areas (CEA) in groundwater aquifers that would otherwise be used for water supply (a) or other non-potable uses. (b) The responsible party, in this case, Ciba, must delineate the vertical and horizontal extent of the groundwater aquifer where the exception is to be applied and identify the constituents that will not meet groundwater standards. The use of a CEA is allowed for remedial cleanups where there is an "approved program", in Ciba's case a signed "Consent Agreement."

The specific requirements of a CEA are:

i. Standards that could not be met would be set at higher, non-specific levels;

ii. The potable water use would be suspended;

iii. The perimeter of the CEA is where standards are applied;

iv. The institutional vehicle for a CEA is an applicable regulatory program such as an NJDES permit or a Consent Decree;

v. The length of the exception or the review period must be specified, and

vi. When the contravened standards are met, the original designated use is restored.

The State of New Jersey has also promulgated an exception to the classification system where one or more constituent (chemical compound) contravenes the groundwater standards (N.J.A.C 7:9-6.6(d)), as follows:

> "(d) Where a discharge has resulted or will result in localized groundwater quality that contravenes one or more constituents standards, the Department may define that area as a Classification Exception Area for specified constituents pursuant to (or in accordance with) a NJPDES permit action or a Department approved remedial action in the context of an applicable regulatory program. All other constituent standards shall apply within the Classification Exception Area. All designated uses in each Classification Exception Area will be suspended during the life of the Classification Exception Area. Constituent standards of the surrounding classification area shall apply at the perimeter of the Classification Exception Area for the specified constituents. The Department shall restrict or require the restriction of potable ground water uses with any Classification Exception Area where there is or will be an exceedance of the Primary Drinking Water Quality Standards (in N.J.A.C. 7:10). Where the Department defined the Classification Exception Area through a NJPDES permit action the Classification Exception Area shall have the same life as the approved NJPDES permit action, after which the original classification, designated uses and constituent standards shall apply. Other regulatory actions creating the Classification Exception Area shall specify the longevity of the exception, after which the original classification, designated uses and constituent standards shall be applicable."

Groundwater monitoring regulations also establish criteria for groundwater protection and state response although it can be argued that they apply only to sources created after 1983 (N.J.A.C. 7:14 A-6.15(A)1). However, this regulation establishes some fundamental principals which can be applied to the Site CERCLA cleanup as follows:

i. Institute a monitoring program when hazardous constituents exceeds groundwater standards (N.J.A.C. 7:14a-6.15(b)), such as a SAMP under the CERCLA requirements;

ii. Establish (permit) conditions to protect the groundwater (N.J.A.C. 7:14A-6.15(c)), ie, Consent Decree requirements;

iii. Identify the hazardous constituents and adverse effects on the groundwater (N.J.A.C. 7:14a-6.15(d));

iv. Establish alternate limits to existing groundwater standards as long as there is no "substantial present or potential hazard to human health or the environment" (N.J.A.C. 7:14A-6.15(e)2.);

v. Specify the point of compliance for standards or alternative limits (N.J.A.C. 7:14A-6.15(A));

vi. Define the compliance period (N.J.A.C. 7:14A-6.15(g)), as required for a CEA;

vii. Specify monitoring well locations, sampling, and analytical procedures, along with a compliance program (N.J.A.C. 7:14A-6.15(h, i and j), and

viii. Implement a corrective action program (N.J.A.C. 7:14A-6.15(r), which would include CERCLA remediation.

The groundwaters in the vicinity of the Site are classified as Class II-A, whose primary use is "potable water and conversion to potable water" (N.J.A.C. 7:9-6.5(e)1). These groundwater standards are referenced as one of four treatment standards that have already been established for the OU-1

groundwater extraction, treatment and recharge system. These treatment standards are listed in Table 1 of the Explanation of Significant Differences (ESD) issued under the Consent Order (CD) for OU-1, which specifies the treatment standards for the groundwater treatment system. The Table 1 groundwater treatment standards are the more stringent of the following standards:

- Toms River discharge limits specified in the OU-1 ROD;
- New Jersey State Groundwater Quality Criteria or antidegradation standards;
- Federal or New Jersey State drinking water standards, whichever is more stringent; and
- New Jersey Department of Environmental Protection and Energy (NJDEPE) Discharge to Groundwater Limits.

RELATED TBCs: None

ARAR TYPE: Chemical/Action

IMPLEMENTATION STRATEGY:

Potentially applicable to any remedial technologies which generate an aqueous waste stream. It is likely that aqueous waste streams could be treated in the groundwater treatment system. The ability of the treatment system to successfully treat additional aqueous waste streams to meet these requirements would need to be evaluated.

ARAR CONCERN:	Protection of Wetlands and Floodplains
FEDERAL CITATION:	33 USC Section 1344 (CWA Section 404)
	33 CFR 323
	33 CFR 320-330
	40 CFR 6 (Appendix A)
STATE CITATION:	NJAC 7:7A 2.3(a)1, 2 and 6
	NJAC 7:13-1.8, 7:13-3.1(a)1

REQUIREMENT SUMMARY:

Federal agencies are to avoid construction within a floodplain or wetlands unless there are no practicable alternatives. If it is necessary to locate any of the remediation facilities within a floodplain or wetland, all practicable measures are to be taken to minimize any impacts to the floodplain or wetland. Actions must minimize destruction, loss, or degradation of wetlands, as defined by Executive Order 11990, Section 7. A floodplain or wetland assessment must be published in the Federal Register prior to taking any action within the floodplain/wetland to allow time for public review and comment.

The discharge of dredged or fill material without a permit is prohibited by 33 CFR 323; the U.S. Army Corp of Engineers is the regulatory authority for issuing dredge and fill Permits.

New Jersey requires the delineation of the 100 year flood plain for a river (N.J.A.C. 7:13-1.8) and specifically prohibits the "placing, depositing or dumping any solid or hazardous waste" (N.J.A.C. 7:13-3.1(a)1) in the delineated floodplain. It should be noted that in the Source Control RI Report, the five (5) lagoons of the Backfilled Lagoon Area were identified as being within the 100-year flood boundary. Subsequent to this report, the Federal Emergency Management Agency (FEMA) found that the flood zone map used for the assessment was incorrect. The updated FEMA map in the EPA-approved FS Workplan shows that the Backfilled Lagoon Area is not within the 100-year flood boundary.

The DEP has jurisdiction over freshwater wetlands and transition areas and has defined a process for identifying them (N.J.A.C. 7.7A). There are two other wetlands concerns: 1) the destruction of plant life which alters the wetlands charger and/or 2) disturbing the water table (N.J.A.C. 7:7A2.3(a) 2 and 6). Ciba has designed the groundwater remediation (OU-1) to avoid direct wetlands impacts.

RELATED TBCs:	40 CFR 230 - Guidelines for Discharge of Dredged or Fill Material into Navigable Waters
	Executive Order 1190
	Executive Order 11988
ARAR TYPE:	Location

IMPLEMENTATION STRATEGY:

Potentially applicable to remedial activities in the floodplain of the Toms River. Ciba has submitted "A Survey of Wetlands Within the Toms River Corridor from the Manchester Township Line to Route 37" in 1972. None of the potential source areas are within the delineated wetlands which form a narrow band along the Ciba property and the river.

Groundwater extraction and treatment associated with OU-1 may change the water level in the wetlands.

ARAR CONCERN: NJ Soil Erosion and Sediment Control Act

FEDERAL CITATION:

STATE CITATION: Chapter 251 Public Law T975

REQUIREMENT SUMMARY:

A New Jersey Soil Erosion Permit is required whenever an area of land larger than 5,000 square feet is to be disturbed. The permit application must describe what measures will be used to control erosion of soils and sediments. These are also recently mandated stormwater control regulations (40 CFR Part 122) promulgated under the Water Quality Act of 1987 which address erosion control measures for construction and soil excavation sites.

RELATED TBCs:

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

The non-administrative portion of this regulation may be potentially applicable to remedial activities which involve excavation of soil or waste. Although work done at a CERCLA site precludes the need for additional permits, appropriate soil erosion control measures will be required for any remedial action taken at the Site.

3.2.2 Safe Drinking Water Act

This section addresses the identification and application of potential chemical-, location-, and action-specific ARARs and TBCs associated with the Safe Drinking Water Act (SWDA) [42 USC Section 300 et. seq.]. Subsection 3.2.2.1 provides some general information regarding the SDWA. The summary sheets for each potential ARAR and TBC are included in Section 3.2.2.2.

3.2.2.1 Background Information

The SWDA was passed by Congress on December 3, 1974, to address a growing concern that earlier efforts to assure safe drinking water had failed. The intent of the SWDA was to fill the gap left by the enactment of the CWA passed two years earlier. While the CWA was passed to clean up and protect streams and other surface waters, the SDWA was intended to protect underground water sources.

Drinking water standards under the SDWA apply to public water systems, defined as those piping water for consumption by 25 or more people or having at least 15 service connections. The regulations subsequently issued under the Act cover small water supply systems serving a small housing development or commercial building, as well as cities and towns providing water to hundreds or thousands of people. The protection afforded under the Act is based on a system of drinking water standards set by the EPA. The SWDA regulates chemical standards of drinking water, control or underground injection of contaminants, and protection of sole-source aquifers. Each of these elements is discussed further below.

Primary and Secondary Drinking Water Standards

There are two types of drinking water standards: primary and secondary. Both types of standards limit the amount of a specific contaminant that may be in drinking water. Primary standards, called Maximum Contaminant Levels (MCLs), apply to substances that may have an adverse effect on health, and are enforced by the states and must be complied with. Among the primary standards are MCLs for fluoride, arsenic, a variety of pesticides, mercury, lead, nitrates, and several additional inorganic and organic chemicals, as well as for radioactivity. Included within primary standards are Maximum Contaminant Level Goals (MCLGs), which are nonenforceable health-based goals that have been established at levels at which no known or anticipated adverse effects on health or persons occur and which will allow an adequate margin of safety. Secondary standards provide guidelines on substances that affect the color, taste, smell, and other physical characteristics; secondary standards are advisory only. Among the secondary standards are limits on chloride, copper, iron, and manganese, all of which impart an unpleasant odor or taste to water. Both types of standards are set by the EPA but are enforced by the states, with state enforcement of secondary standards optional.

Underground Injection Control

The Act regulates underground injection of chemicals and other substances that could enter the aquifer and cause harm. Injection of liquid wastes into underground wells as a method of disposal may only be conducted if it will not damage the quality of the aquifer. There are five types of underground injection wells within the Underground Injection Control (UIC) program:

- *Class I* - wells into which highly toxic industrial and/or municipal wastes are injected beneath the deepest layer of the earth containing an underground source of drinking water;

- *Class II* - wells used to inject fluids in the course of producing oil and gas, and for liquid hydrocarbon storage;
- *Class III* - wells used to extract minerals or energy from the earth;
- *Class IV* - wells where hazardous wastes or radioactive materials are injected into or above a formation within one-quarter mile of an underground source of drinking water; and
- *Class V* - wells not included in the other categories, encompassing those used for cesspools, drainage, storage of gaseous hydrocarbons, cooling-water return, or for a variety of other uses.

The UIC program established by the EPA requires a state phase-out operation of Class IV wells within six months after the state UIC program is approved. No new Class IV wells are permitted. Class I, II, and III wells must be evaluated every five years and issued a new state permit after each evaluation in order to continue to operate. Class V wells are not affected by the program.

Sole-Source Aquifers

The SWDA also provides special protection for "sole-source aquifers," those underground water supplies that serve as the only source of drinking water in an area. Specific areas designated under this provision require extensive research for permitting before any activity is undertaken that could potentially damage the aquifer.

3.2.2.2 ARAR and TBC Summary Sheets

This subsection contains the summary sheets for the potential ARARs and TBCs consistent with the identification process described in Section 2.1 and the jurisdictional authority of the SDWA.

ARAR CONCERN: National Primary Drinking Water Regulations

FEDERAL CITATION: 40 CFR 141 (Subparts B, F and G)

40 CFR 142

STATE CITATION: NJAC 7:9-6 et al.

NJAC 7:10-16.7

REQUIREMENT SUMMARY:

Establishes primary drinking water standards through identification of Maximum Contaminant Levels (MCLs) for drinking water supplies and sources based on maintaining public health. The federal regulations and related regulations are applicable to public water systems (PWSs). The term "public water systems" includes a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Any collection, treatment, storage, and distribution facilities under control of the operator or not under control of such system, but used primarily in connection with such a system, is regulated.

In regard to state regulations the DEP drinking water standards are at N.J.A.C. 7:10-16.7.

RELATED TBCs: None

ARAR TYPE: Chemical

IMPLEMENTATION STRATEGY:

These regulations are relevant and appropriate because Federal and New Jersey State drinking water standards are cited in Table 1 of the ESD. Any aqueous waste streams generated from remedial activities may be treated in the on-site groundwater treatment plant. The ability of the groundwater treatment system to successfully treat additional aqueous waste streams to meet these requirements would need to be evaluated.

ARAR CONCERN: Secondary Drinking Water Standards

FEDERAL CITATION: 40 CFR 143

STATE CITATION: NJAC 7:10-7.2

REQUIREMENT SUMMARY:

Establishes secondary drinking water standards which are non-enforceable parameters for drinking water supplies and sources which may affect public acceptability of the water.

RELATED TBCs: None

ARAR TYPE: Chemical

IMPLEMENTATION STRATEGY:

These regulations are potentially to be considered because Federal and New Jersey State drinking water standards are cited in Table 1 of the ESD. These are not ARARs because they are not enforceable.

3.3 HAZARDOUS AND SOLID WASTE

3.3.1 Solid Waste Disposal Act/Resource Conservation And Recovery Act (RCRA)

Subsection 3.3.1.1 provides some background information regarding RCRA. Subsection 3.3.1.2 identifies and discusses some overall considerations and issues that address the application of RCRA to the remediation activities at the Site. Some relevant state criteria is provided in Subsection 3.3.1.3. The summary sheets for each potential ARAR and TBC are included in Subsection 3.3.1.4.

3.3.1.1 Background Information

The Solid Waste Disposal Act [42 USC Section 6901 et. seq.] is more commonly known by its 1976 amendment, the Resource Conservation and Recovery Act (RCRA). RCRA, as amended, has nine discrete subtitles that deal with specific solid waste management activities. Three subtitles are most likely to be ARARs for remedial actions at the Site: Subtitle C (Hazardous Waste Management), Subtitle D (Solid Waste Management), and Subtitle I (Underground Storage Tanks). A brief description of each of these subtitles is provided below.

3.3.1.1.1 Hazardous Waste Management - Subtitle C

The regulations implementing the hazardous waste management program (40 CFR 260 to 272) consist of:

- General definitions and overview (40 CFR 260);
- Solid and hazardous waste definitions (40 CFR 261);
- Standards for generators (40 CFR 262);
- Standards for transportation (40 CFR 263);
- General standards for treatment, storage, and disposal (TSD) facilities that govern such topics as ground water protection, closure, and post-closure care (40 CFR 264/265 Subparts B through G);
- Specific standards for TSD facilities that regulate design, construction, operation, and closure of containers, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, containment buildings, and other miscellaneous hazardous waste management units (40 CFR 264/265 Subparts I through DD);
- Standards for management of specific types of hazardous waste, including recyclable materials used in a manner constituting disposal, recyclable materials utilized for precious metal recovery, spent lead-acid batteries being reclaimed, and hazardous waste burned in boilers and industrial furnaces (40 CFR 266);
- Land disposal restrictions, treatment standards, and storage prohibitions (40 CFR 268);
- Permitting requirements (40 CFR 270); and
- Delegation of RCRA program administration to states (40 CFR 271 and 272).

Within 40 CFR 261, the specific solid wastes managed as hazardous wastes are defined. This regulation also allows various exemptions from the definition of a hazardous waste. The various hazardous waste classifications include:

- Listed hazardous waste from:
  - Non-specific and specific source codes (F- and K- series wastes); and
  - Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof (P- and U- series wastes); and
- Characteristic hazardous waste (D-series waste) due to:
  - Ignitability,
  - Corrosivity,
  - Reactivity, and
  - Toxicity.

Regulations that apply to the design, construction, operation, and closure of TSD facilities (i.e. 40 CFR 264 and 265) are divided into two groups. Standards under 40 CFR 265 apply to TSD facilities that were in operation prior to November 19, 1980 (called "interim status facilities"). If the interim status facility cannot comply with a 40 CFR 265 requirement, the facility must be either upgraded or closed. The standards under 40 CFR 264 apply to TSD facilities constructed after the effective date of the hazardous waste management regulations (i.e., November 19, 1980). In addition to the November 19, 1980 date, there are numerous other effective dates within these regulations which dictate whether a specific provision applies to a particular hazardous waste management unit.

EPA was granted primary responsibility over the administration of RCRA. The EPA is allowed to delegate this authority to a State if the State's hazardous waste management program is at least as stringent as the Federal program. This delegation of authority is conducted in phases and is a continual process as regulatory changes are made. The Federal standards apply unless the State has been authorized to administer that portion of the program. In cases where EPA has not delegated its authority, both the Federal and State requirements could apply. The authority to administer the majority of the RCRA programs in the State of New Jersey has been granted to the NJDEP. The State RCRA standards are ARARs only if they are more stringent than Federal requirements. However, to avoid potential conflicts between EPA and State regulatory agencies, the general approach for identification of ARARs employed herein is to include both the Federal citation and the companion State citation.

3.3.1.1.2 Solid Waste Management - Subtitle D

Under Subtitle D, the EPA is required to establish a program to manage generation, treatment, and storage of non-hazardous solid waste (i.e. municipal, commercial, and industrial refuse, trash and garbage). The EPA has issued minimum criteria for the siting, construction, and operation of municipal and solid waste disposal facilities (see 40 CFR 257 and 258). Each State is to develop and enforce a solid waste management program based on EPA requirements. The criteria for developing the State programs is identified in 40 CFR 256. The State of New Jersey solid waste management regulations are contained in NJAC 7:26-1 through 7:26-6.

3.3.1.1.3 Underground Storage Tanks - Subtitle I

This program was created to ensure proper installation of underground storage tanks (USTs) to prevent releases of petroleum products to ground water and to remediate environmental contamination associated with leaking tanks. The EPA has established criteria (see 40 CFR 280) for each state to administer its own program. The requirements for design, installation, operation, and corrective action of underground tanks in the State of New Jersey are presented in NJAC 7:14B.

3.3.1.2 Overall Issues and Considerations

Determination of whether the RCRA regulations are applicable or relevant and appropriate for a particular remedial action is addressed in:

- CERCLA Compliance with Other Laws Manual (EPA/540/G-89/006);
- Superfund LDR Guide #5 - Determining When Land Disposal Restrictions Are Applicable to CERCLA Response Action (OSWER 9347.3-05FS); and
- Superfund LDR Guide #7 - Determining When Land Disposal Restrictions Are Relevant and Appropriate to CERCLA Response Action (OSWER 9347.3-07FS).

In general, these guides state that RCRA requirements apply when the remediation waste is determined to be hazardous waste. RCRA would be applicable in situations where:

- The remediation waste is derived from a listed hazardous waste that was originally generated after the effective date of the regulations or was previously managed as a hazardous waste;
- The remedial action involves closure of a RCRA-regulated TSD facility;
- The remedial action is in response to a corrective action for a release of hazardous waste or hazardous waste constituent; or
- The remediation waste is determined to be a characteristic hazardous waste and the response action involves treatment, storage, or disposal of remediation waste.

Although RCRA requirements are not applicable to waste generated prior to the effective date of the regulatory requirement, RCRA could still be relevant and appropriate in situations where the remediation waste is determined to be "sufficiently similar" to a listed hazardous waste. RCRA regulations could also be relevant and appropriate for the closure of TSD units that contain a "sufficiently similar" listed hazardous waste.

3.3.1.3 Relevant State Criteria

Regulations discussed in this section do not apply to source areas created by pre-1982 disposal activities but are relevant and appropriate.

Hazardous Waste Landfill

The DEP regulations for closure and post closure pre-suppose a double-lined RCRA facility (N.J.A.C. 7:26-10.8(C)). However, if hazardous waste is to be capped in place then the detailed and general closure and post closure requirements are ARARs (N.J.A.C. 7:26-10.8(i) and N.J.A.C. 7:26-9.8 and 9.9). A multi-layered synthetic and vegetative cap with a permeability of 10^{-7} cm/sec and a thirty (30) year maintenance period is specified.

Non-Hazardous Waste Landfill

The closure and post closure requirements for a non-hazardous landfill are more general than a hazardous one and also pre-suppose a liner(s) (N.J.A.C. 7:26-2A.9). This is the procedure used to develop the Closure Plan for Cell No. 3 at the active Site landfill. For the purposes of capping waste, either requirement, hazardous or non-hazardous, would be more than sufficient to prevent rainfall infiltration over a thirty (30) year period.

Hazardous Surface Impoundment

The DEP surface impoundment regulations also pre-suppose a double liner (N.J.A.C. 7:26-10.6(c)). However, closure requirements for a surface impoundment differ significantly from a hazardous or non-hazardous landfill because they specify either removal of the hazardous material or containment in place (N.J.A.C. 7:26-10.6(h)). Containment requires a demonstration that neither the groundwater or the soil underneath has been contaminated by waste from the impoundment. The practice of removing waste from an impoundment in New Jersey has been to classify it in three general categories, hazardous, non-hazardous solids (ID27), and debris and then dispose of these streams appropriately.

Non-Hazardous Surface Impoundments

The DEP has no specific requirements for non-hazardous impoundments. There is potential for the NJDEP to utilize the same requirements as for non-hazardous landfills. Depending on the site history the NJDEP could, if appropriate, apply either the new Jersey Pollution Discharge Elimination System (NJPDES) Regulations (N.J.A.C. 7:14A) or the hazardous regulations (N.J.A.C. 7:26-10.6(h)). Both regulations require that corrective action be taken upon evidence of groundwater contamination in excess of established limits (N.J.A.C. 7:14-6.15(e). Where corrective action is required, compliance with the groundwater protection standards for hazardous constituents (defined under N.J.A.C. 7:14-6:15(d) and (e)) will be required. Prevention of further releases of hazardous constituents may be achieved by either removing the constituents or treating them in place. Specific treatment measures are subject to state approval.

Similar Site Cleanups

Ciba has already conducted several on-site cleanups of surface impoundments and landfills, under the jurisdiction of the DEP, including the Equalization Basins (a partial RCRA hazardous waste closure), the Ocean Outfall Basin (a non-hazardous surface impoundment), the Overflow Basin (a non-hazardous surface impoundment), and the removal of sludge from Cell No. 2 (a non-hazardous landfill closure). In all the surface impoundment closures, the DEP had made final cleanup subject to the EPA on-going CERCLA Remedial Investigation (RI) process.

The closure process applied to all the impoundments was:

i. Waste material was sampled for RCRA characteristics, TCLP, petroleum hydrocarbons, priority pollutants and PCB's.

ii. Hazardous waste was re-sampled, and if verified as hazardous, was removed for RCRA disposal.

iii. Non-hazardous wastes were classified ID-27 solid waste and disposed of appropriately. If the origin was wastewater treatment and the waste, characteristic of sludge, it was landfilled on site in Cell No. 3 of the non-hazardous landfill.

iv. Soil samples below the waste surface were also collected from all areas and the results were reported in the Source Control RI Report (CDM 1994). ARAR and TBC Summary Sheets

This subsection contains the summary sheets for the potential ARARs and TBCs consistent with the identification process described in Section 2 and the jurisdictional authority of RCRA.

ARAR CONCERN: Criteria for Classification of Solid Waste Disposal Facilities and Practices

FEDERAL CITATION: 40 CFR 257

STATE CITATION: NJAC 7:26-2

REQUIREMENT SUMMARY:

This regulation provides location, design, and operational requirements for solid waste facilities. These requirements include: 1) siting requirements pertaining to floodplains, 2) protection of threatened and endangered species, 3) compliance with the Clean Water Act, 4) protection of the ground water, 5) application of waste to land used for the production of food crops, 6) operations to control vectors and pathogens, 7) prohibition of open burning, and 8) controls for explosive gases generated through decomposition, bird hazards to aircraft, and restriction of public access.

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

These regulations are applicable to construction of any remediation waste management facilities as a part of any remedial actions.

ARAR CONCERN: Siting of Solid Waste Disposal Facilities

FEDERAL CITATION: 40 CFR 257.3-1
40 CFR 258.10-15

STATE CITATION: NJAC 7:13-1.8
NJAC 7:26-A.6

REQUIREMENT SUMMARY:

Facilities or practices in floodplains shall not restrict the flow of the base flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human life, wildlife, or land and water resources. Locations of municipal landfills in floodplains, wetlands, fault areas, seismic impact zones, or unstable areas is restricted.

RELATED TBCs: None

ARAR TYPE: Location

IMPLEMENTATION STRATEGY:

These regulations are potentially applicable for the siting of on-site remediation waste management units. The regulatory provisions protecting health and the environment could be applicable for contaminants left in place in areas of concern.

ARAR CONCERN: Standards Applicable to Generators of Hazardous Waste, Hazardous Waste Determinations

FEDERAL CITATION: 40 CFR 262.11

STATE CITATION: NJAC 7:26-8.5

REQUIREMENT SUMMARY:

Generators must characterize their wastes to determine if the waste is hazardous by:

- Determining whether the waste is excluded from regulation under 40 CFR 261.4;
- Determining whether the waste is listed under 40 CFR 261, Subpart D; or
- Determining whether the waste is identified in 40 CFR 261, Subpart C by testing the waste according to specified test methods or by applying knowledge of the hazardous characteristics of the waste in light of the materials or the process used.

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

These regulations are potentially applicable for all waste generated during remedial activities. All solid waste must be characterized by the generator.

ARAR CONCERN: Standards Applicable to Generators of Hazardous Waste, Manifesting, Pre-transportation, Record Keeping and Reporting Requirements

FEDERAL CITATION: 40 CFR 262, Subparts B, C and D

STATE CITATION: NJAC 7:26-7

REQUIREMENT SUMMARY:

These regulations apply to generators of hazardous waste and address issues including waste packaging, record keeping, container labeling, manifests, biennial reporting, and exception reporting. The generator also shall keep any records identifying test results, waste analyses, or other determinations made in accordance with 40 CFR 262.11.

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

These generator requirements would only be applicable in the case where hazardous waste is shipped off-site.

ARAR CONCERN: Siting of Hazardous Waste Facilities

FEDERAL CITATION: 40 CFR 264.18

STATE CITATION: NJAC 7:13-1.1(a)1

REQUIREMENT SUMMARY:

Provides siting requirements for hazardous waste management facilities and prohibits disposing of solid or hazardous waste within the 100-year flood plain or within 200-feet of a fault displaced in the Holocene time.

RELATED TBCs: None.

ARAR TYPE: Location

IMPLEMENTATION STRATEGY:

These regulations are potentially applicable for the siting of on-site remediation hazardous waste management units located in areas of concern. The regulatory provisions protecting health and the environment could be applicable for hazardous contaminants left in place in areas of concern.

ARAR CONCERN: Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF), General Facility Standards

FEDERAL CITATION: 40 CFR 264/265, Subpart B

STATE CITATION: NJAC 7:26-9.4

REQUIREMENT SUMMARY:

These subparts outline the general requirements for the owners/operators of a hazardous waste TSD facility. The requirements include: identification numbers, required notices, general waste analysis, security, inspection requirements, personnel training, waste compatibility, location standards, and construction standards.

RELATED TBCs: Permit Applications' Guidance Manual for the General Facility Standard of 40 CFR 264 (SW-968)

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

The 40 CFR 264, Subpart B standards would be applicable for construction and operation of a new or currently permitted TSD facility used for management of remediation waste classified as a hazardous waste. The 40 CFR 265, Subpart B standards would be applicable for operation or closure of an existing interim-status TSD facility. Subpart B could also be relevant and appropriate if the remediation waste is sufficiently similar to a listed hazardous waste.

Portions of these regulations are potentially applicable for hazardous waste management units established on the site. Some provisions may apply to remedial actions which leave hazardous constituents in-place and provide items such as caps which may require on-going inspection and maintenance.

ARAR CONCERN: Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF), Preparedness/Prevention and Contingency Plan/Emergency Procedures

FEDERAL CITATION: 40 CFR 264/265, Subpart C and D

STATE CITATION: NJAC 7:26-9.5 and 9.7

REQUIREMENT SUMMARY:

Hazardous waste treatment and/or storage facilities must be designed, constructed, maintained, and operated to minimize the possibility of fire, explosion, or any unplanned release of hazardous waste. As such, preparedness and prevention include: testing and maintenance of equipment, access to communications or alarm system, required aisle space, and arrangement with local authorities.

Subpart D requires that the owner or operator have a contingency plan for the facility. This section outlines the contents of the contingency plan, amendment of the contingency plan, and emergency procedures.

RELATED TBCs: Permit Applications' Guidance Manual for the General Facility Standards of 40 CFR 264 (SW-968)

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

The 40 CFR 264, Subpart C and D standards would be applicable for construction and operation of a new or currently permitted TSD facility used for management of remediation waste classified as a hazardous waste. The 40 CFR 265, Subpart C and D standards would be applicable for operation or closure of an existing interim-status TSD facility. Subparts C and D could also be relevant and appropriate if the remediation waste is sufficiently similar to a listed hazardous waste.

These regulations are potentially applicable for remedial actions at source areas which will generate hazardous waste on the site. Some provisions may apply to remedial actions which use hazardous waste management units for TSD within the boundaries of the site. The requirement for a contingency plan could be considered as an administrative requirement and therefore not an ARAR.

ARAR CONCERN: Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF), Releases from Solid Waste Management Units (SWMUs)

FEDERAL CITATION: 40 CFR 264, Subpart F

STATE CITATION: NJAC 7:14A-6
NJAC 7:26-9.5

REQUIREMENT SUMMARY:

Requires the establishment of a detection, compliance, and corrective action monitoring program to ensure protection of the ground water by assessing the performance of the TSD facility during operations. The ground water monitoring program is required to be performed during the post-closure period for land disposal facilities where hazardous wastes remain in place after closure. The post-closure monitoring needs to be conducted for a period of 30 years unless the regulatory agency approves an earlier termination date or requires the monitoring period to be extended. Post-closure monitoring cannot be terminated if the facility is in compliance or undergoing corrective action monitoring.

RELATED TBCs: RCRA Groundwater Monitoring Technical Enforcement Guidance Document (530/SW-86-055)

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

The 40 CFR 264, Subpart F standards would be applicable for the operation of a new or currently permitted TSD facility used for management of remediation waste classified as a hazardous waste. The 40 CFR 264, Subpart F standards would also be applicable for the post-closure of existing interim-status and new land disposal facilities where hazardous waste will remain in place after completion of closure. Subpart F could be relevant and appropriate if the remediation waste is sufficiently similar to a listed hazardous waste.

ARAR CONCERN: Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF), Groundwater Protection Standards

FEDERAL CITATION: 40 CFR 264.94

STATE CITATION: NJAC 7:26-13.12

REQUIREMENT SUMMARY:

Establishes concentration limits for hazardous constituents in the uppermost ground water unit at regulated landfills, surface impoundments, waste piles, land treatment units, and solid waste management units. Concentration limits may include background levels, maximum concentration limits, or alternate concentration limits.

RELATED TBCs: None

ARAR TYPE: Chemical

IMPLEMENTATION STRATEGY:

Potentially applicable to regulated units which received hazardous wastes after enactment of the requirements, if the contamination in the uppermost aquifer is (or is not??) being addressed. The regulations may be relevant and appropriate to other units receiving waste with Appendix VIII constituents if releases to an aquifer below the uppermost aquifer have occurred or are occurring.

Alternate concentration limits may be petitioned for with consideration of the waste characteristics, the hydrogeological characteristics, the proximity and withdrawal rates of groundwater users, the current and future areas of area groundwater, the potential for health risks, the potential for damage to wildlife or crops, the potential for impacts to hydraulically-connected surface water, and the persistence and permanence of the potential effects.

ARAR CONCERN:	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF), Closure and Post-Closure
FEDERAL CITATION:	40 CFR 264/265, Subpart G
STATE CITATION:	NJAC 7:26-9.8 and 9.9 NJAC 7:26-10

REQUIREMENT SUMMARY:

All TSD facilities must be closed in a manner that (1) minimizes the need for further maintenance and (2) controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste decomposition products to the ground or surface waters, or to the atmosphere. Partial and final closure activities must be completed within 180 days (or approved extension) in accordance with the approved closure plan. All contaminated equipment, structures, and soils must be properly disposed or of decontaminated. these materials shall be managed based on the results of the characterization made pursuant to 40 CFR 262.11. Within 60 days of completion of closure, the owner or operator must submit by registered mail, a certification that the TSD was closed in accordance with the specifications in the approved closure plan. For land disposal facilities where hazardous waste will remain after completion of closure, the owner or operator must submit a survey plot indicating the location and dimensions of the hazardous waste disposal unit to the authority which jurisdiction over local land use and to the regulatory agencies no later than the submission of closure certification. Post-closure care of land disposal units is subject to the requirements of Section 264.117 to .120 and must begin after completion of closure and continue for 30 years after that date. Likewise post-closure use of the properly must never be allowed to disturb the integrity of the final cover or any other components associated with the final cover.

RELATED TBCs:	Interim Status Standards and General Standards for Closure and Post-Closure Care (PB81-189 763) RCRA Guidance Manual for Subpart G Closure and Post Closure Care Standards and Subpart H Cost Estimating Requirements (530/SW-87/010) Guidance for Permit Writers: Facilities Storing Hazardous Waste in Containers
ARAR TYPE:	Action

IMPLEMENTATION STRATEGY:

The 40 CFR 264, Subpart G standards would be applicable for the closure of new, currently permitted TSD facilities used for the management of remediation waste that is classified as a hazardous waste. The 40 CFR 265, Subpart G standards would be applicable for the closure of existing interim status TSD facilities. The 40 CFR 264, Subpart G post-closure requirements would be applicable to both permitted and interim status land disposal facilities where hazardous waste will remain in place after

completion of closure. Subpart G could also be relevant and appropriate if the remediation waste is sufficiently similar to a listed hazardous waste.

ARAR CONCERN: Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF), Use and Management of Containers

FEDERAL CITATION: 40 CFR 264/265, Subpart I

STATE CITATION: NJAC 7:26-10.4

REQUIREMENT SUMMARY:

Requires all hazardous waste to be stored and managed in appropriate containers. The containers are to be maintained to prevent leakage and/or spillage. The management requirements include keeping containers closed during storage; segregating the containers based on the compatibility, ignitability, and reactivity of the waste; conducting weekly inspections; and providing a secondary containment system. The containment system is to be designed to have a crack-free base, have a sloped base to prevent contact of the containers with the accumulated liquids, have a capacity capable of containing the greater of 10% of the total stored volume or the contents of the largest container, and be capable of removing spilled or leaked waste in a timely manner. If the waste containers do not contain free liquids, exemptions to the above containment design may be allowed. Ignitable or reactive wastes are to be stored at least 50 feet from the property line. This subpart also includes specific closure requirements for container storage areas including removal or decontamination of all wastes residues.

RELATED TBCs: Guidance for Permit Writers: Facilities Storing Hazardous Waste is Containers

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

The 40 CFR 264/265, Subpart I standards would be applicable for the storage beyond 90 days of all remediation waste that is classified as a hazardous waste. The 40 CFR 264/265, Subpart I standards would also be applicable for the closure of these storage areas. Subpart I could also be relevant and appropriate if the remediation waste is sufficiently similar to a listed hazardous waste.

ARAR CONCERN: Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Tank Systems

FEDERAL CITATION: 40 CFR 264/265, Subpart J

STATE CITATION: NJAC 7:26-10.5 and 11.2

REQUIREMENT SUMMARY:

These requirements apply to treatment or storage of hazardous waste in tanks. Tank systems are to be designed and operated in a manner to prevent releases to the environment. Subpart J requires that tanks have sufficient shell strength, be compatible with the wastes, have secondary containment, have controls to prevent overfilling, and sufficient freeboard (open-top tanks only) to prevent overtopping by wave action or precipitation. Daily inspections must be conducted to ensure that corrosion, cracks, and leaks are discovered and repaired. Ignitable and reactive wastes must be stored so as to prevent ignition or reaction. Upon closure, all hazardous waste and hazardous waste residues are to be removed.

RELATED TBCs: Permit Writers' Guidance Manual for Hazardous Waste Tank Standards (530/SW-89/003)

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

The 40 CFR 264/265, Subpart J standards would be applicable for the tank storage beyond 90 days of all remediation waste that is classified as a hazardous waste. The 40 CFR 264/265, Subpart J standards would also be applicable for the closure of these tank storage areas. Subpart J could also be relevant and appropriate if the remediation waste is sufficiently similar to a listed hazardous waste.

ARAR CONCERN: Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Surface Impoundments

FEDERAL CITATION: 40 CFR 265.228

STATE CITATION: NJAC 7:26-10.6

REQUIREMENT SUMMARY:

At closure, the owner or operator must (1) remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), and contaminated subsoils, structures, and equipment contaminated with waste and leachate, and manage them as required; or (2) close the impoundment and provide post-closure for a landfill under Subpart G and Section 265.310.

RELATED TBCs: Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments (530/SW-89/047)

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

Potentially applicable. The basis for identifying only the closure requirements for surface impoundments under 40 CFR 265 Subpart K is based on the assumption that new surface impoundments will not be developed at the Site as part of a remedial action and that the closure of existing surface impoundments will be performed under interim status.

ARAR CONCERN: Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Landfills

FEDERAL CITATION: 40 CFR 264/265, Subpart K

STATE CITATION: NJAC 7:26-10.8 and 11.4

REQUIREMENT SUMMARY:

At closure, a final cover must be installed and post-closure care/monitoring initiated. The final cover must 1) minimize infiltration; 2) require minimal maintenance; 3) be sloped to promote drainage, minimize ponding, and minimize erosion/abrasion; 4) accommodate settling/subsidence; and 5) have a permeability less than that of the bottom liner system. Permanently surveyed benchmarks are to be established for locating the waste disposal boundaries. Post-closure activities include cover maintenance/repairs, ground water monitoring, prevention of cover erosion due to storms, and maintenance of the surveyed benchmarks.

Disposal requirements for hazardous waste include: 1) placing laboratory waste, including waste with free liquids, in specially designed containers called lab packs (40 CFR 264.316); 2) using absorbents or other methods to eliminate free liquids in a container prior to disposal; 3) ensuring that waste containers are at least 90% full or their volume is minimized (shredding, crushing, or other means) prior to disposal (40 CFR 264.315); and 4) disposing of hazardous wastes F020, F021, F022, F023, F026, and F027 in accordance with an EPA-approved management plan (40 CFR 264.317).

RELATED TBCs: Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments (530/SW-89/047)

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

Potentially applicable for areas where hazardous waste is or may be placed. The basis for identifying only the closure requirements for landfills under 40 CFR 265 Subpart N is the assumption that a new landfill will not be developed at the Site as part of a remedial action and that the closure of existing surface impoundments will be performed under interim status.

ARAR CONCERN: Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Corrective Action for Solid Waste Management Units

FEDERAL CITATION: 40 CFR 264.552
40 CFR 264.553, Subpart S

STATE CITATION: NJAC 7:26G-8.1

REQUIREMENT SUMMARY:

The EPA (regional administrator) or delegated State authority can designate a Corrective Action Management Unit (CAMU) or a Temporary Unit (TU) to allow a more flexible management of remediation waste within these units. The CAMU designation allows alternate standards, other than those imposed by the LDR treatment standards and Minimum Technology Requirements for new land disposal facilities, to be tailored to the actual site conditions. The alternate standards are required to be protective of human health and the environment, and the CAMU is required to be closed upon completion of the corrective action. Remediation waste can be stored and treated in a TU without the need to obtain a permit or to fully comply with all of the unit-specific requirements. However, like the CAMU, the management of the remediation waste must be protective of human health and the environment. The operation of a TU is allowed for a period up to one year and can be extended for an additional year if granted by EPA or the designated State. Both CAMUs and TUs can be used to manage remediation wastes that are generated at the facility. CAMUs and TUs cannot be used to manage wastes from other sites and non-remediation waste from the site undergoing corrective action. CAMUs and TUs are to be designated pursuant to a permit or order governing the corrective actions at the facility.

A CAMU is an area designated by the Regional Administrator under 40 CFR 264 subpart S, for the purpose of implementing corrective action requirements under 40 CFR 264.101. A CAMU can only be used for the management of remediation wastes. According to EPA,

CAMUs are expected to be ARARs for the remediation of many CERCLA sites, especially those sites where CERCLA remediation involves the management of RCRA hazardous wastes.

The CAMU provisions were designed to reduce or eliminate certain waste management requirements of the current RCRA subtitle C regulations (cradle-to-grave, LDRs). For example, the following waste management options can be used without triggering LDRs under the CAMU rule:

- remediation wastes generated outside a CAMU can be consolidated into a CAMU;
- remediation wastes may be moved between two or more CAMUs; and
- remediation wastes can be excavated from a CAMU, treated in a separate unit (which could be located inside or outside the CAMU at a facility), and redeposited into the CAMU.

Unlike the LDRs, the CAMU rule does not specifically address the issue of what treatment standards or technologies should be applied in remediation RCRA and Superfund sites.

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

This rule is applicable to the Site.

This regulation can be used as a means to manage remediation waste in compliance with RCRA requirements without having to unnecessarily treat the waste and/or build a new management unit as mandated under 40 CFR 268 and 40 CFR 264, respectively. The CAMU rule allows the consolidation of remediation waste without invoking placement.

The CAMU rule would allow for the flexibility to consider a full range of remediation strategies. When the range of remediation strategies is constrained by requiring compliance with subtitle C standards, the ability to select and implement reliable, protective and cost effective remedies is impeded. The CAMU rule is predicted to result in more on-site waste management (vs. off-site management); lesser reliance on incineration; greater reliance on innovative technologies; and a lower incidence of capping waste in place without treatment.

The following factors must be presented to the Regional Administrator in allowing him to designate a CAMU.

- The CAMU shall facilitate the implementation of reliable, effective, protective, and cost-effective remedies.
- Waste management activities associated with the CAMU shall not create unacceptable risks to humans or to the environment resulting from exposure to hazardous waste or hazardous constituents.
- The CAMU shall include uncontaminated areas of the facility, only if including such areas for the purpose of managing remediation waste is more protective than management of such wastes at contaminated areas of the facility.
- Areas within the CAMU, where wastes remain in place after closure of the CAMU, shall be managed and contained so as to minimize future releases, to the extent practicable.
- The CAMU shall expedite the timing of remedial activity implementation, when appropriate and practicable.
- The CAMU shall enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long-term effectiveness of remediation actions by reducing the toxicity, mobility, or volume of wastes that will remain in place after closure of the CAMU.
- The CAMU shall, to the extent practicable, minimize the land use of the facility upon which wastes will remain in place after closure of the CAMU.

ARAR CONCERN: Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Miscellaneous Units

FEDERAL CITATION: 40 CFR 264, Subpart X

STATE CITATION: None

REQUIREMENT SUMMARY:

This regulation provides requirements for the construction and operation of new miscellaneous hazardous waste management units that do not fit the definitions for the units regulated under the other subparts of 40 CFR 264. Subpart X provides performance-based requirements to ensure protection of human health and the environment.

RELATED TBCs: None.

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

The Subpart X standards would be applicable for the construction and operation of a new miscellaneous unit used for management of remediation waste that is classified as a hazardous waste. Subpart X could also be relevant and appropriate if the remediation waste is sufficiently similar to a listed hazardous waste.

ARAR CONCERN: Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Air Emission Standards for Process Vents

FEDERAL CITATION: 40 CFR 264/265, Subpart AA

STATE CITATION:

REQUIREMENT SUMMARY:

This regulation applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air/stream stripping operations that manage hazardous waste with an organic concentration of at least 10 parts per million (ppm) (by weight). The organic emissions from all process vents at the facility shall either be limited to 3 pounds per hour and 3.1 tons per year, or be reduced by 95 percent by weight. Performance standards for closed-vent systems and control devices are specified in this regulation to demonstrate compliance with the above standards. Monitoring, reporting, and record keeping requirements are also provided.

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

This regulation would be applicable to the treatment of remediation waste, designated as hazardous waste, having an organic concentration of at least 10 ppm (by weight). Subpart AA could also be relevant and appropriate if the remediation waste is sufficiently similar to a listed hazardous waste and has an organic concentration of at least 10 ppm (by weight).

ARAR CONCERN: Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Air Emission Standards for Equipment Leaks

FEDERAL CITATION: 40 CFR 264/265, Subpart BB

STATE CITATION:

REQUIREMENT SUMMARY:

This regulation provides design, operation, inspection, monitoring, and repair requirements for process equipment that contains or contacts hazardous waste with organic concentrations of at least 10 percent by weight. Equipment operated under vacuum is exempt if certain conditions are met.

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

This regulation would be applicable to the treatment of remediation waste, designated as hazardous waste, having an organic concentration of at least 10 percent by weight. Subpart BB could also be relevant and appropriate if the remediation waste is sufficiently similar to a listed hazardous waste and has an organic concentration of at least 10 percent by weight.

ARAR CONCERN: Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Containment Buildings

FEDERAL CITATION: 40 CFR 264/265, Subpart DD

STATE CITATION:

REQUIREMENT SUMMARY:

The storage or treatment of hazardous waste within a containment building does not constitute land disposal if the structure 1) is completely enclosed and is self-supporting, including loads resulting from the water materials, equipment and climatic conditions; 2) has a primary barrier; 3) has liquid collection and secondary containment systems if liquids are to be managed; 4) has controls to prevent visible fugitive dust emissions; and 5) is designed to prevent the tracking of waste from the unit by personnel and equipment. This regulation provides specific design, operation, and closure requirements for each of the above-mentioned components.

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

This regulation would be applicable to the storage and treatment of remediation waste, designated as hazardous waste, within a containment building. Subpart DD could also be relevant and appropriate if the remediation waste is sufficiently similar to a listed hazardous waste.

ARAR TYPE: Land Disposal Treatment Standards

FEDERAL CITATION: 40 CFR 268, Subparts A to D

STATE CITATION: NJAC 7:26G-11.1

REQUIREMENT SUMMARY:

The Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA) largely prohibit the land disposal of untreated hazardous wastes (listed and characteristic). Under the land disposal restrictions (40 CFR 268), EPA must establish treatment standards that are protective of human health and the environment when the wastes are land disposed. Land disposal includes any placement of hazardous waste in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, or underground mine or cave.

The regulations establish treatment standards for the placement of hazardous waste into a land disposal unit (i.e. landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, underground mine or cave, or concrete vault or bunker). Hazardous wastes which either exceed specified concentration limits or have not been treated using the required treatment technology are considered to be prohibited from land disposal. Concentration limits were developed by EPA assuming that a waste would be treated using the best demonstrated available technology (BDAT). Although such wastes can be treated by any technology, the hazardous constituent concentrations in any treatment residues must not be higher than those obtained using BDAT to allow for land disposal. The treatment standards must substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of the hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized. These wastes affected by these regulations are known as restricted hazardous waste or 'LDR" wastes. Variances from the treatment standards are provided in accordance with the provisions of 40 CFR 268.

RELATED TBCs: Superfund LDR Guide #5 - Determining When Land Disposal Restrictions are Relevant and Appropriate to CERCLA Response Action (OSWER 9347.3-05FS)

Superfund LRD Guide #7 - Determining When Land Disposal Restrictions are Relevant and Appropriate to CERCLA Response Action (OSWER 9347.3-07FS)

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

The land disposal prohibition is potentially applicable to all LDR waste generated as a result of remedial activities unless placement does not occur. Placement occurs when wastes are 1) consolidated from different areas of concern (AOCs) into a single AOC; 2) moved outside of an AOC (for treatment or storage) and returned to the same or a different AOC; or 3) excavated from an AOC, placed in a separate unit that is within the AOC, and redeposited into the same AOC. Placement does not occur when waste are 1) treated *in situ*; 2) capped in place; 3) consolidated within the AOC; or 4) processed within the AOC, but not in a separate unit, to improve its structural stability (i.e., for capping or to support heavy equipment). [References: Superfund LDR Guide #5, CERCLA Compliance With Other Laws Manual - Part I, Section 2.7, and 55 FR 8758].

ARAR CONCERN: Prohibition on Storage of Restricted Waste

FEDERAL CITATION: 40 CFR 268, Subpart E

STATE CITATION:

REQUIREMENT SUMMARY:

A generator can store restricted hazardous waste in a tank, containers, or containment building on-site provided that the storage complies with the respective storage requirements and is solely for the purpose of accumulating such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal. The generator may store these restricted hazardous wastes for a period up to one year unless the EPA can demonstrate that such storage was not required. Storage may occur beyond one year; however, the owner/operator bears the burden of proving that the storage is required.

RELATED TBCs: None

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

The storage prohibition is potentially applicable to all restricted hazardous wastes that were placed into storage after the effective date of the treatment standard established for that particular waste stream. The storage prohibition could also be relevant and appropriate if the remediation waste is sufficiently similar to a listed hazardous waste.

ARAR CONCERN: Underground Storage Tank Requirements

FEDERAL CITATION: 40 CFR 280

STATE CITATION:

REQUIREMENT SUMMARY:

This regulation establishes the criteria for the design, construction, installation, operation, closure, and corrective action of underground storage tanks (USTs) used to store regulated substances excluding hazardous waste. This regulation also addresses owner/operator financial responsibility requirements to ensure that response actions can be carried out in the event of a release.

RELATED TBCs:

ARAR TYPE: Action

IMPLEMENTATION STRATEGY:

These standards would be potentially applicable for the installation of any UST used to store a regulated substance, for the removal of existing regulated USTs, and for the remediation of leaking USTs. This regulation is not an ARAR for installing a UST used to store a hazardous waste or for responding to release of a hazardous waste. Regulations regarding the installation and closure of hazardous waste tanks are provided in 40 CFR 264/265, Subpart J.

3.3.2 Hazardous Materials Transportation Act

3.3.2.1 Background Information

The Hazardous Materials Transportation Act (HMTA) [49 USC Section 1801 et seq.] became law in 1975, and provided the Department of Transportation (DOT) with authority to regulate movement within the United States of substances that may pose a threat of health, safety, property, or the environment when transported by air, highway, rail, or water. Only substances shipped in bulk by water are excluded.

Some 16,000 hazardous materials are regulated under HMTA, including hazardous waste. Hazardous substances and waste, although regulated within the CWA, CERCLA, and RCRA, are considered to be subgroups of hazardous materials regulated under the HMTA, are subject to the corresponding DOT regulations. The DOT regulations are considered applicable for off-site response actions (e.g. shipping waste off-site to an incinerator) and the Site must comply with both the substantive and administrative requirements of the regulation.

The DOT regulations require that all shipments of hazardous materials to be packaged, labeled, and transported in accordance with requirements based on the nature of the material. Transportation requirements that would be most relevant to response actions at the Site include designation/classification of the waste under 49 CFR 172, shipping requirements contained in 49 CFR 173, and requirements for transporting waste on the highway (49 CFR 177).

3.3.2.2 ARAR and TBC Summary Sheets

This law and associated regulations for off-site transportation of hazardous materials apply on their own merit and are not subject to ARAR/TBC provisions of CERCLA.

3.3.3 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

This section addresses the identification and application of potential chemical-, location-, and action-specific ARARs and TBCs associated with the state ("CERCLA") statues. Subsection 3.3.3.1 provides some general information regarding CERCLA and the state statutes. The summary sheets for each potential ARAR and TBC are included in Subsection 3.3.3.2.

3.3.3.1 Background Information

Comprehensive Environmental Response, Cleanup, and Liability Act (CERCLA) [42 USC Section 9601 et. seq.] regulations are not ARARs since they are applicable to remedial actions on their own jurisdictional authority under CERCLA. Beyond the requirements for conducting the RI/FS and Remedial Design/Remedial Action (RD/RA), the NCP contains two key provisions that could impact selection and implementation of a remedial action. These provisions include worker health and safety and off-site response actions.

Worker protection standards stand on their own authority and are not considered ARARs (see 55 FR 8680). CERCLA regulations under 40 CFR 300.150 specifically require that all response actions under the NCP maintain worker safety and health as specified under 29 CFR 1910.120. These regulations are being listed for completeness and to ensure that these protection requirements are not

overlooked when preparing the implementation plans for the selected remedial action. These requirements include:

- Remedial activities are to be conducted by OSHA-trained personnel and under OSHA requirements.
- Employers are required to develop and implement a written safety and health program for their employees involved in hazardous waste operations.
- Task-specific health and safety plans are to be developed for remedial activities at sites where workers have the potential to come into contact with hazardous substances.
- Medical surveillance and respirator programs are to be established.

Any off-site response actions at the Site including shipment of remediation waste to off-site treatment, storage, and disposal (TSD) facilities, must comply with CERCLA Section 121(d)(3), and possibly 40 CFR 300.440. In general, the purpose of EPA's off-site requirements is to avoid having CERCLA wastes contribute to the present (?) and future environmental problems by directing wastes to facilities determined to be environmentally sound. Facilities used for the off-site management of CERCLA wastes must:

- Be operating in compliance with all applicable Federal, State, and local regulations; there must be no relevant violations at or affecting the receiving unit.
- Not have ongoing releases from the receiving unit; contamination from prior releases at the receiving unit must be addressed as appropriate.
- Have a program to address releases at other units within the receiving facility boundaries.

The State of New Jersey, has passed "CERCLA" type statutes which also address clean up issues for remediation of former releases to the environment. These statutes were evaluated in this subsection to determine if they constitute an ARAR.

3.3.3.2 ARAR and TBC Summary Sheets

This subsection contains the summary sheets for the potential ARARs and TBCs consistent with the identification process described in Section 2 and the jurisdiction authority of CERCLA and state statutes.

ARAR CONCERN: Industrial Site Cleanup

FEDERAL CITATION: None

STATE CITATION: Environment Contamination and Responsibility Act (ECRA)
Industrial Site Recovery Act (ISRA)
NJSA 13:1 K-6 et. seq.

REQUIREMENT SUMMARY:

Established requirements for cleanup of real property at the time of transfer. Industrial operations which are to close, or whose ownership is to be transferred, must comply with the provisions of this Act. Among other things, the Act requires submission of a cleanup plan to NJDEP.

RELATED TBCs: None

ARAR TYPE: Chemical

IMPLEMENTATION STRATEGY:

Potentially a To Be Considered since the regulations have not been completed to enforce the Act. The cleanup levels are still in development. The submittal of the cleanup plan and a majority of the provisions of the Act are administrative and therefore not ARARs.

3.3.4 Toxic Substance Control Act (TSCA)

This section addresses the identification and application of potential ARARs associated with the Toxic Substances Control Act (TSCA) [15 USC 2601 et seq.]. Subsection 3.3.4.1 provides background information regarding the Act. The summary sheets for each potential ARAR are included in Subsection 3.3.4.2

3.3.4.1 Background Information

In 1976, Congress promulgated the Toxic Substance Control Act. The purpose of TSCA was to establish a system under which all new chemical substances entering the U.S. market would be evaluated for their effects on human health, other living organisms, and the environment. The act also authorized the EPA to compile a list of existing substances and collect information on their use, health, and environmental effects. This information could be used to control or ban substances that caused harm to health or the environment but that slipped through loopholes in other laws. The intent of the law was to complete the chain of U.S. environmental laws that had been promulgated in the previous six years.

TSCA was drafted to provide comprehensive protection of health and the environment at a time when the environmental movement of the 1970s had exposed several serious chemical hazards that could not be addressed under existing laws. In each case, the hazardous substance in question was effective and was widely used by U.S. industry. The problems encountered with polychlorinated biphenyls (PCBs) is an example.

In the drafting of TSCA, Congress mandated that the manufacture of PCBs be banned and that existing uses be phased out. In addition, the law required EPA to promulgate regulations on labeling and disposal of PCBs. Although the EPA was late in complying with the mandate in the Act, PCB regulations were enacted in 1979. In 1980, exemptions in the rules that permitted continued use of totally enclosed PCBs and PCBs in concentration lower than 50 ppm were overturned by a Federal court.

As a result of the lawsuit, the EPA put an interim PCB inspection and maintenance program into effect and began rewriting the stricken portions of the rules. In late 1982, the EPA promulgated two parts of the new final rules, but stated it would take at least until the end of 1984 to address the question of regulating PCBs as uncontrolled by-products created in the manufacturing of other substances. Late in 1984, the EPA issued a rule defining PCBs inadvertently generated during manufacturing processes and set limits on the amount of PCBs that would be exempt from regulation. The regulations regarding management and disposal of PCBs are codified in 40 CFR 761.

3.3.4.2 ARAR and TBC Summary Sheet

No regulations have been identified for OU-2 response actions at the Site as potential ARARs and TBCs consistent with the identification process described in Section 2 and the jurisdictional authority of TSCA.

3.4 NATURAL RESOURCE PROTECTION

3.4.1 Natural and Cultural Resource Protection Laws

This section addresses the identification and application of potential ARARs associated with the Natural and Cultural Resource Protection Laws. Subsection 3.4.1.1 provides background information. The summary sheets for each potential ARAR are included in Subsection 3.4.1.2

3.4.1.1 Background Information

As discussed in Section 2, location-specific requirements are restrictions placed on the concentration of hazardous substances or the conduct of activities solely because they occur in special locations. Natural Resources and Cultural Resources Protection Laws form the basis of location-specific ARARs. Listed below are some Natural Resources and Cultural Resources Protection Laws that have been identified as potential location-specific ARARs.

- Archaeological and Historic Preservation Act [16 USC 469],
- Archaeological Resources Protection Act [16 USC 470],
- Endangered Species Act [16 USC 1531,],
- Fish and Wildlife Coordination Act [16 USC 661], and
- Coastal Zone Management Act (CZMA) [16 USC 1451]

Identification of these laws should be conducted on an operable unitspecific basis, and be coordinated with the National Environmental Protection Act (NEPA) evaluation and documentation for the response action. The NEPA process addresses physical impacts to the environment, to the ecology, impacts to historical, archaeological, and cultural resources, socioeconomic impacts, and impacts to the environment from noise generated during the response action.

3.4.1.2 ARAR and TBC Summary Sheets

This subsection contains the summary sheets for the potential ARARs and TBCs consistent with the identification process described in Section 2 and the jurisdictional authority of the Natural and Cultural Resource Protection Laws.

ARAR CONCERN: Endangered or Threatened Species or Critical Habitat Preservation

FEDERAL CITATION: Endangered Species Act: 16 USC 1531

50 CFR 200

50 CFR 402

STATE CITATION: NJSA 23:2A-1

REQUIREMENT SUMMARY:

The Endangered Species Act (ESA) of 1973, 16 USC Section 1531 et seq., provides a means for conserving various species of fish, wildlife, and plants that are threatened with extinction. The ESA defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range..." In addition, the ESA defines a threatened species as "any species which is likely to become an endangered species within the foreseeable future..." Further, the ESA provides for the designation of critical habitats, that are "specific areas within the geographic area occupied by the [endangered or threatened] species... on which are found those physical or biological features essential to the conservation of the species...".

RELATED TBCs: None

ARAR TYPE: Location

IMPLEMENTATION STRATEGY:

Potentially applicable since substantive compliance with the ESA means that the lead agency must identify whether a threatened or endangered species, or its critical habitat, will be affected by a proposed response action. If so, the agency must avoid the action or take appropriate mitigation measures so that the action does not affect the species or its critical habitat. The NJDEP Natural Heritage Base has no record of rare plants, animals or natural communities at the Site. Three plant species, globally secure but threatened in New Jersey because of rarity, have been identified on the site. The state threatened pine snake has also been observed.

ARAR CONCERN: Coastal Zone Protection

FEDERAL CITATION: 16 USC Section 1451 et. seq.
16 USC Section 3501 et. seq.

STATE CITATION: NJAC 7:7E

REQUIREMENT SUMMARY:

Section 307(c)(1) of the Coastal Zone Management Act (CZMA), 16 USC Section 1451 et seq., requires that Federal agencies conducting or supporting activities directly affecting the coastal zone conduct or support these activities in a manner that is consistent with approved State coastal zone management programs. A State coastal zone management program (developed under State law and guided by the CZMA) sets forth objectives, policies, and standards to guide public and private uses of lands and waters in the coastal zone. The State coastal zone management program must be approved by the Secretary of Commerce.

RELATED TBCs: None

ARAR TYPE: Location

IMPLEMENTATION STRATEGY:

The Site is located in the Coastal Area Facility Review Act (CAFRA) zone, such that NJAC 7:7 is a location specific ARAR along with wetlands, flood plains and stream encroachment. Under normal circumstances, if a remedial activity will affect (adversely or not adversely) the coastal zone of a State with an approved coastal zone management program, the lead agency is required to determine whether the activity will be consistent, to the maximum extent practicable (CZMA Section 307(c)), with the State's coastal zone management program and must notify the State of its determination. (If an off-site remedial activity requires a Federal permit, which will not occur often, the State must certify that the proposed activity complies with its coastal zone management plan [CZMA Section 307(c)(3)].) However, in the past, the CAFRA Land Use section of NJDEP has given Ciba a "blanket" waiver from applying for the usual CAFRA permits for remediation. Ciba anticipates a similar groundwater waiver(s) for the OU-2 remediation.

3.5 HEALTH AND SAFETY ISSUES

3.5.1 Occupational Safety and Health Act

This section addresses the identification and application of potential ARARs associated with the Occupational Safety and Health Act. Subsection 3.4.1.1 provides background information relevant to this Act. The summary sheets for each potential ARAR are included in Subsection 3.4.1.2

3.5.1.1 Background Information

The Occupational Safety and Health Act [28 USC Section 651 et seq.] requires the establishment of standards for the protection of employee safety and health. These OSHA standards apply to facilities and response activities as required by the Occupational Safety and Health Act [29 USC Section 668] and Executive Order 12196.

OSHA standards for protection of employees working with hazardous materials are provided in 29 CFR 1910 Subpart H. Regulations for hazardous waste operations and emergency response are provided in 29 CFR 1910.120 for clean-up operations required by a government body. These requirements include:

- Remedial activities are to be performed by OSHA-trained personnel and under OSHA requirements.
- Employers are required to develop and implement a written safety and health program for their employees involved in hazardous waste operations (29 CFR 1910, 120(b)).
- Task-specific health and safety plans are to be developed for remedial activities at sites where workers have the potential to come into contact with hazardous substances.
- Medical surveillance and respirator programs are to be established (29 CFR 1910.120(f)).
- Training (29 CFR 1910.120(e)).

OSHA's general construction standards are contained in 29 CFR 1926. These regulations are being listed for completeness and to ensure that these protection requirements are not overlooked when preparing the implementation plans for the selected remedial actions.

3.5.1.2 ARAR and TBC Summary Sheets

This law and associated OSHA regulations for worker safety and health protection apply on their own standing and are not subject to ARAR/TBC provisions of CERCLA.

TABLE 3-2

CLEAN WATER ACT

Citation	Regulation	ARAR	TBC	Applicable	Relevant and Appropriate
40 CFR 122, Subpart B 40 CFR 136	NPDES Program Requirements	X		X	
33 USC Section 1344 33 CFR 323 33 CFR 320-330 40 CFR 6 (App. A)	Protection of Wetlands and Floodplains	X		X	
Ch. 251 Public law T975	NJ Soil Erosion and Sediment Control Act	X		X	

TABLE 3-3

SAFE DRINKING WATER ACT

Citation	Regulation	ARAR	TBC	Applicable	Relevant or Appropriate
40 CFR 141 (Subparts B, F and G), 40 CFR 142	National Primary Drinking Water Regulations	X			X
40 CFR 143	Secondary Drinking Water Standards		X		

TABLE 3-4

RESOURCE CONSERVATION AND RECOVERY ACT

Citation	Requirements	ARAR	TBC	Applicable	Relevant or Appropriate
40 CFR 257	Criteria for Classification of Solid Waste Disposal Facilities and Practices	X		X	
40CFR 257.3-1 40 CFR 258.10-15	Siting of Solid Waste Disposal Facilities	X		X	
40 CFR 262.11	Standards Applicable to Generators of Hazardous Waste, Hazardous Waste Determination	X		X	
40 CFR 262, Subparts B, C and D	Standards Applicable to Generators of Hazardous Waste, Manifesting, Pre-transportation Record Keeping and Reporting Requirements	X		X	
40 CFR 264.18	Siting of Hazardous Waste Facilities	X		X	
40 CFR 264/265, Subpart B	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF), General Facility Standards	X		X	
40 CFR 264/265, Subpart C and D	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF), Preparedness/Prevention and Contingency Plan/Emergency Procedures	X		X	

TABLE 3-4 (continued)

RESOURCE CONSERVATION AND RECOVERY ACT

Citation	Regulation	ARAR	TBC	Applicable	Relevant or Appropriate
40 CFR264, Subpart F	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF), Releases from Solid Waste Management Units (SWMUs)	X		X	
40 CFR 264.94	Standards for Owners/Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF), Groundwater Protection Standards	X		X	
40 CFR 264/265, Subpart G	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF), Closure and Post-Closure	X		X	
40 CFR 264/265, Subpart I	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF), Use and Management of Containers	X		X	
40 CFR 264/265, Subpart J	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and disposal Facilities, Tank Systems	X		X	
40 CFR 265.228	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Surface Impoundment's	X		X	
40 CFR 264/265, Subpart K	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Landfills	X		X	

TABLE 3-4 (continued)

RESOURCE CONSERVATION AND RECOVERY ACT

Citation	Regulation	ARAR	TBC	Applicable	Relevant or Appropriate
40 CFR 264.552 40 CFR 264.553, Subpart S	Standards for Owners/Operators of Hazardous Water Treatment, Storage and Disposal Facilities, Corrective Action for Solid Waste Management Units	X			X
40 CFR 264, Subpart X	Standards for Owners/Operators of hazardous Waste Treatment, Storage and Disposal Facilities, Miscellaneous Units	X		X	
40 CFR 264/265, Subpart AA	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Air Emission Standards for Process Vents	X		X	
40 CFR 264/265, Subpart BB	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Air Emission Standards for Equipment Leaks	X		X	
40 CFR 264/265, Subpart DD	Standards for Owners/Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Containment Buildings	X		X	
40 CFR 268, Subparts A to D	Land Disposal Treatment Standards	X		X	
40 CFR 268, Subpart E	Prohibition on Storage of Restricted Waste	X		X	
40 CFR 280	Underground Storage Tank Requirements	X		X	

TABLE 3-5

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT

Citation	Regulation	ARAR	TBC	Applicable	Relevant and Appropriate
NJSA 13:1 K-6 et. Seq.	Environmental Contamination and Responsibility Act (ECRA) Industrial Site Recovery Act (ISRA)		X		

TABLE 3-6

NATURAL AND CULTURAL RESOURCE PROTECTION LAWS

Citation	Regulation	ARAR	TBC	Applicable	Relevant or Appropriate
500 CFR 200 50 CFR 402	Endangered or Threatened Species or Critical Habitat Preservation	X		X	
16 USC Sec. 1451 et. seq.; 16 USC Section 3501 et. seq.	Coastal Zone Protection	X		X	

4.0 CONCLUSIONS

4.1 ABSENCE OF CHEMICAL SPECIFIC CLEAN-UP CRITERIA RELATED TO SOIL AND WASTE

Both State and Federal authorities have made attempts to develop both a framework and specific values for clean-up criteria in soils and waste. To date, none of these has moved beyond the proposal stage, and several have been withdrawn as unsuitable or unworkable. A summary of these various initiatives are provided below. The end result is that there are no currently applicable, relevant or appropriate cleanup standards for soils and, with certain exceptions, waste.

4.1.1 Federal Proposals Addressing Soil and Waste Clean-up Criteria

Under current regulations effective December 1994, land disposal of soils that contain listed or characteristic hazardous waste is prohibited unless such soils have been treated to meet the treatment standards promulgated for that hazardous waste (i.e., the same treatment standard that waste would have to meet if it was newly generated rather than found in the soil matrix). The standards could potentially be considered as relevant and appropriate clean-up criteria except that EPA has expressly indicated that use as soil clean-up criteria would not be appropriate. EPA's preference is to establish risk-based levels that truly minimize threats to both human health and the environment [59 FR 47982].

EPA recognizes that the treatment standards promulgated for as-generated hazardous waste may not always be achievable or appropriate for soil contaminated with that waste. EPA therefore proposed less stringent alternative treatment standards that would specifically apply to hazardous soils. Currently, EPA has decided not to promulgate alternative treatment standards for hazardous soil but will address it as part of the Hazardous Waste Identification Rule (HWIR) effort for contaminated media [59 FR 47982].

4.1.1.1 Soil Screening Levels

On December 30, 1994, the EPA Office of Solid Waste and Emergency Response (OSWER) issued the draft soil screening level (SSL) guidance. This guidance is the first step in the ultimate development of soil cleanup guidance levels to be used in conjunction with RI/FS work at Superfund sites. The intent of the SSLs is to accelerate decision-making at Superfund sites by quickly identifying soil that may be of potential concern, and thus, would warrant additional study. The SSLs are not cleanup standards or cleanup goals, and levels in excess of the SSLs do not automatically represent "unacceptable levels" or trigger remediation. SSLs are only intended to target areas for additional study; areas with contaminant concentrations below the SSLs would require no further action. Because of their tenuous nature at this point, SSL's cannot and will not be considered as ARARs or TBC's for the site. The EPA SSL guidance document (EPA/540/R-95/128) specifically says SSLs will not replace ARARs.

4.1.1.2 Preliminary Remediation Goals

The National Contingency Plan (NPC) (40 CFR 300.430(e)(2)) requires that when screening remedial alternatives the EPA or the State Agency should initially establish preliminary remediation goals. Preliminary Remediation Goals (PRGs) are defined as:

Initial cleanup goals that (1) are protective of human health and the environment and (2) comply with ARARs. They are developed early in the process based on readily available information and are modified to reflect results of the baseline risk assessment. They are also used during analysis of remedial alternatives in the Remediation Investigation/Feasibility Study (RI/FS) (USEPA 1991).

Chemical-specific PRGs developed in accordance with EPA (1991) guidance, are based on the protection of public health (i.e., no consideration is given to ecological effects). Risk-based PRGs set concentration limits using noncarcinogenic and/or carcinogenic toxicity values under site-specific exposure conditions. As with treatment standards, however, PRGs are not considered by EPA as acceptable alternatives to ARARs.

4.1.2 State Criteria Addressing Soil and Waste Clean-up Criteria

The Industrial Site Recovery Act ("ISRA"), ch. 127, 1993, provided a reprieve to property owners who were to be subject to the DEP's proposed soil cleanup standards. While ISRA Section 35 requires DEP to adopt minimum remediation standards for soil remediation of real property, the DEP is prohibited from promulgating such soil standards until the newly created Environment Advisory Task Force ("Task Force") makes its recommendations on the development and application of remediation standards. ISRA Section 37 establishes the Task Force, and provides that within two years of its first meeting, the Task Force must make recommendations to the DEP on the feasibility, development, and application of remediation standards protective of the environment. Because DEP cannot promulgate soil standards until it received the Task Force's recommendations, under ISRA Section 35, soil cleanup standards would be developed on a case-by-case basis. Currently, no report has been issued or soil standards promulgated.

The DEP is currently drafting regulations to implement ISRA. Until the regulations are adopted, the Department must utilize its current approach to site-specific soil cleanup standards. Under this approach, the Department uses risk assessment methods based upon EPA risk assessment guidance to develop criteria for the protection of human health. NJDEP has however, delegated all authority for the Site to EPA Region II.

4.2 OTHER CRITERIA NOT RELEVANT TO OPERABLE UNIT TWO

Operable Unit Two addresses contaminated source areas only. Issues related to groundwater extraction treatment and discharge (either to the aquifer or to surface water) are addressed with Operable Unit One. Previous EPA findings have shown that there are no significantly endangered species or architectural historical features at the site. Regulations and protections associated with each of these areas are therefore not considered.

Floodplain issues are also not considered except in regard to the off-site wetland areas.